

1 UNITED STATES BANKRUPTCY COURT
2 FOR THE WESTERN DISTRICT OF NORTH CAROLINA
3 CHARLOTTE DIVISION

4 **CONFIDENTIAL PORTIONS INCLUDED**

5 IN RE:

6 GARLOCK SEALING TECHNOLOGIES, No. 10-BK-31607
7 LLC, et al,
8 Debtors.

9 VOLUME VIII
10 WEDNESDAY, JULY 31, 2013
11 (Full Day)

12 TRANSCRIPT OF ESTIMATION TRIAL
13 BEFORE THE HONORABLE GEORGE R. HODGES,
14 UNITED STATES BANKRUPTCY JUDGE

15 **CONFIDENTIAL PORTIONS INCLUDED**

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E X H I B I T S

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P R O C E E D I N G S

(On the record at 9:32 a.m.)

THE COURT: Are you ready to proceed,
Mr. Schachter.

MR. SCHACHTER: I am, indeed, Your Honor.

CROSS-EXAMINATION

BY MR. SCHACHTER:

Q. Good Morning, Dr. Brodkin.

A. Good morning.

Q. I'd like to start with methodology. Your methodology does not take into account a qualitative or quantitative assessment of the portion of a person's exposure that is attributable to the product in question as compared with their total exposure to asbestos; is that correct?

A. I think that's true. My assessment looks at exposure qualitatively in intensity and duration to the material, whether it's asbestos-containing or not, in terms of duration and intensity but not by particular product.

Q. Of course, you've been involved in a lot of these cases over the years?

A. I have over the years. That's true.

Q. You're board-certified by the American Board of Occupational and Preventive Medicine; correct?

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1 A. The American Board of Preventive Medicine and the
2 American Board of Internal Medicine are the two boards.

3 Q. Okay. And your training, of course, has been in
4 preventive medicine.

5 A. In internal medicine and occupational medicine.

6 Q. Now we can agree, can we not, that a terrible
7 association is well documented between thermal insulation
8 products and mesothelioma?

9 A. Well I would describe it as a significant
10 association, I think, that's well documented.

11 Q. Yes, in layman's terms. But it's clear that
12 people who work regularly around thermal insulation
13 products, the pipe coverings and the cements and the
14 other things that were around pipes, have died at a rate
15 of approximately ten percent from the insulation. That's
16 been proven; correct?

17 A. Certainly. Selikoff demonstrated that in North
18 American insulators, and that is associated with their
19 historic exposure to asbestos. Other cohorts have had
20 lower rates, but I think ten percent would be on the high
21 end.

22 Q. And you've been involved in many cases in which
23 you have spoken with pipefitters, people who are around
24 the insulation. But, specifically on the pipefitters,
25 you've looked at hundreds of their depositions and

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1 interviewed hundreds of them. Right?

2 A. That's true. Yes.

3 Q. And their work -- for the most part, work with
4 that thermal insulation is an integral part of their
5 work.

6 A. I would say that's true of many of them, but you
7 have to take an occupational history. I mean, among the
8 trades of pipefitters are also instrumentation
9 pipefitters that only work with piping, they don't work
10 with insulation, or workers that work with new
11 installations that never work around insulation. So you
12 really want to take an occupational history. Pipefitters
13 that perform maintenance, typically, did have to access
14 pipes through insulation.

15 Q. Sure. And I guess there was only one other case
16 where you and I had occasion to be together in a legal
17 dispute and that was the Stone case. And in that case,
18 that would be a typical pipefitter case; correct?

19 A. I haven't looked over the Stone case recently to
20 speak to it, but my recollection is that it was a
21 pipefitter.

22 Q. Sure. And in that case, there was evidence that
23 the pipefitter in question had worked with or around many
24 thermal insulation products of various kinds; correct?

25 A. I have a general recollection of that. Yes.

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1 Q. That would be typical for the cases that are
2 likely to come against Garlock. Although you can't
3 prognosticate and haven't looked in detail at any of the
4 exposure information in this case, you would expect that
5 in a typical case, where Garlock was sued in the future,
6 that the pattern of exposure we would see for a
7 pipefitter would involve work with the thermal insulation
8 products.

9 A. I'm not sure I can speak to a typical case. But,
10 pipefitters that were, as part of their work, involved in
11 maintenance pipe fitting would frequently have exposure
12 to thermal insulation. Those that were involved in new
13 construction and instrumentation? Many of them would
14 not.

15 Q. You are aware, because I've asked you about it,
16 that a vast amount of information was gathered in this
17 case about current claimants through depositions, through
18 answers to questionnaires, and other means.

19 A. I think it was -- that was mentioned in my
20 deposition.

21 Q. Sure.

22 A. I haven't looked at any of that material.

23 Q. Yes. And you haven't looked at any of that,
24 because the methodology you employ to determine causation
25 in a case is not dependent upon information about other

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1 sources of exposure; correct?

2 A. Well, in occupational medicine, we address
3 exposure-related illness. So my methodology is to assess
4 the exposure, then to document what illness there is and
5 see if there's a causal association. Certainly, that's
6 my methodology here. I can't really speak to the other
7 documents I didn't see and what my approach would have
8 been. I just can't speculate about that.

9 Q. But the answer to my question is that under your
10 methodology it would not be important to you to learn
11 what other exposures occurred to which the person in
12 question -- that the person in question had. Correct?

13 A. I disagree strongly with that characterization,
14 because mesothelioma is a dose-response disease. It's
15 the cumulative dose that results in risk. Physicians in
16 my field have to look at the aggregate exposure. So I'm
17 extremely interested in all of the exposures an
18 individual had, because it is the aggregate exposure that
19 is the risk.

20 Q. But in reaching your causation opinions that you
21 are called upon by plaintiffs' lawyers to testify about,
22 your methodology does not include the rest of the
23 aggregate exposures before you can say that the product
24 in question was a cause. Is that correct or not?

25 A. Well, whether it's litigation or Worker's Comp, or

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1 clinically, whatever setting, it's an assessment of the
2 aggregate exposure, and that would be all of the
3 materials. It's not limited to gaskets and packing. It
4 would certainly include insulation. It would include any
5 other type of material or occupation that that person was
6 involved in that might result in exposure.

7 Q. Okay. Under your methodology, sir, you would be
8 willing to opine that a person who had ten minutes of
9 exposure to gaskets, that the gaskets, if they were
10 Garlock gaskets, were a cause of their mesothelioma.
11 Correct?

12 A. Well, I would want to know a lot about those ten
13 minutes. I mean, brief exposures have significant
14 uncertainty. If an individual were working outside and
15 the wind was blowing the other direction and ten minutes
16 was their only exposure, I would need to know a lot of
17 details about that environment. That's a lot different
18 than a pipefitter who integrally works with those
19 materials over their career. So, I would need to know a
20 lot about that ten-minute exposure before I would opine
21 that that was a causal association.

22 Q. But under your methodology, even if the person had
23 years and years of exposure to amosite-containing thermal
24 insulation products, and you are sure that there was
25 exposure for that ten minutes to gaskets, you would be

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1 willing to testify that the ten minutes of gasket
2 exposure was a cause of their mesothelioma. Correct or
3 not correct?

4 A. Well, generally, I'm very hesitant on a one-time
5 basis to conclude that there is exposure. But if it were
6 an extremely intense exposure and some gasket exposures
7 are, such as power working on compressors can lead up to
8 200 fibers per cc. If it were that type of intense
9 exposure, it could be a component part. So I wouldn't,
10 in the abstract, exclude it, but I would want to know a
11 lot of information.

12 Q. And basically, sir, as you testified in your
13 deposition, you have, under your methodology, no way of
14 weighing the relative importance of a single exposure if
15 it's well documented in the context of a lifetime of
16 exposure. That's correct, right?

17 A. As I indicated in my deposition, if an exposure
18 meets the criteria for an identified exposure, if there's
19 a documented source, a documented activity that would
20 overcome the body's defenses, I would identify that as a
21 component part of the cumulative exposure. I don't have
22 a way of teasing that out from the other aspects of the
23 aggregate exposure.

24 Q. And that is, in part, because you focus on
25 episodic exposures. One short-term exposure that's well

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1 documented suffices for you, sir. Is that correct?

2 A. I don't think that's a fair characterization. I
3 focus on cumulative exposure. I endeavor, and physicians
4 in my field endeavor, to take an aggregate occupational
5 history looking and identifying exposures and aggregating
6 those as a cumulative exposure. I'm not looking for
7 episodic exposures. I'm trying to assess the
8 cumulative exposure. That being said, there are often
9 multiple components, and one has to look at those.

10 Q. And if in your opinion, the one component was ten
11 minutes of well-documented exposure, as you said in your
12 deposition, that would be enough for you no matter what
13 all the other exposures were. Correct?

14 A. Well, again, if it were a well-characterized
15 identified exposure, it could be a component part of the
16 cumulative exposure, but certainly one would want to look
17 at the occupational activities. I mean, ten minutes has
18 a lot of uncertainty to it compared to a career of
19 working integrally with a material. It's very different.

20 Q. We're focusing on methodology, sir. If, indeed,
21 the law is that it is not a viable solution to indulge in
22 a fiction that each and every exposure to asbestos, no
23 matter how minimal in relation to other exposures,
24 implicates a fact issue concerning substantial factor
25 causation in every direct case. If the courts have said

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1 that that kind of methodology is unacceptable, then your
2 methodology doesn't even begin to address the methodology
3 that the courts are increasingly saying must be applied
4 to these situations. That's correct, isn't it?

5 MR. FROST: Your Honor, I'd have to object.

6 THE COURT: I'll sustain the objection. We'll
7 listen to that in closing argument.

8 BY MR. SCHACHTER:

9 Q. Okay, Your Honor. I'm sorry if I've -- one of the
10 issues, and let's take the Stone case because that's a
11 case we know you know about, even though you may not have
12 a full memory. You could not exclude in that Stone case
13 exposure to amosite as a cause for Mr. Stone's
14 mesothelioma; correct?

15 A. I'm a little uncomfortable being asked about a
16 case I did years ago that I don't remember the details
17 of. That may very well be true; I just don't have a
18 working memory of it as I sit here. And, certainly, if
19 my conclusion was that there could be amosite exposure, I
20 would have so indicated.

21 Q. Okay. You have reviewed many cases. And you know
22 that in many of the pipefitter cases the people describe
23 working with amosite-containing thermal insulation
24 products; right?

25 A. Well, typically, a worker in an occupational

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1 history doesn't describe using amosite. They don't know
2 what amosite is. They describe, as part of their
3 historic work, working with insulation. Now if that is
4 in industrial hot settings or naval settings, that often
5 includes amosite or mixed fiber. So, I would conclude
6 there was some amosite exposure there but they wouldn't
7 report it.

8 Q. Okay. Based upon what you know and based upon
9 what you've been told by the people you've interviewed
10 and the cases you've worked on in a typical -- in such an
11 instance, you would not be able to exclude exposure to
12 the toxin, the carcinogen amosite, as a cause of
13 mesothelioma in that person. Correct?

14 A. It would depend on the occupational history.
15 Oftentimes it's the case, particularly in land-based
16 exposure where it's reported that a pipefitter worked
17 with thermal insulation. I don't know that that contains
18 amosite. I mean, 95 percent of the asbestos used in
19 North America was chrysotile. If it's used in certain
20 high-temperature industrial settings, naval vessels or
21 some commercial vessels, in boiler rooms and other
22 mechanical spaces, it likely is a mixed exposure and
23 would contain some amosite. If it's other land-based
24 settings, just because they say "insulation" doesn't mean
25 it's amosite.

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1 Q. All right. In a -- you write -- you prepared a
2 report in this case; right?

3 A. Yes, I did.

4 Q. And you testified that 95 percent -- you wrote in
5 your report that 95 percent of amosite in North America
6 was chrysotile. And then you said, while it was often
7 available, chrysotile was used exclusively in many
8 insulation applications, and you cited Balzer and Cooper,
9 1968; right?

10 A. Yes.

11 Q. So, Balzer and Cooper is something you rely upon?

12 A. Yes.

13 Q. So if we wanted to look and determine whether, in
14 most cases, amosite insulation was the important
15 exposure, we could look at Balzer and Cooper; right?

16 A. Sure. And, certainly, Balzer and Cooper describe
17 use of amosite, but they also describe use of chrysotile.

18 Q. And what they said is that -- this is '68.

19 Insulation exposure to amosite fibers is not
20 disappearing. Chrysotile has yet -- has not yet
21 supplanted the use of amosite asbestos in manufacturing
22 of insulation materials. And as of 1968, at least, they
23 were saying amosite exposures are the most significant in
24 the insulating trade. That's what they said; correct?

25 A. They do. And in the article they also list other

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1 applications where chrysotile only is used, but they do
2 say that.

3 Q. There are time constraints in this case. And if
4 you can answer yes or no to my question -- will you try
5 to do that, sir?

6 A. I will. I just wanted to be complete in the
7 answer.

8 Q. Sure. All right. So Balzer and Cooper have
9 identified that the most significant exposures for
10 people, as of 1968, was still amosite. So you would say
11 that anybody associated with the insulation trades, based
12 scientifically on the sources you've cited, their most
13 significant exposure is this amosite. Correct?

14 A. No. I disagree with that characterization.

15 Q. Okay.

16 A. Again, insulation often is a mixed exposure.
17 Certainly, it could include amosite. I think amosite is
18 important. But just because thermal insulation is
19 mentioned, one shouldn't conclude that that's amosite.
20 They're not synonymous.

21 Q. Sir, you would agree that fiber-burden studies are
22 an important scientific tool; correct or incorrect?

23 A. Yes, they can be useful in assessing exposure.

24 Q. Sure. And they give us an historical
25 understanding of what kind of exposure has occurred in a

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1 person whose fiber burden is taken and is analyzed;
2 correct?

3 A. They can. As I said yesterday, I believe they are
4 actually quite sensitive for amphibole exposure. It can
5 be quite in that setting. Less utility for chrysotile
6 because chrysotile doesn't persist in the lungs.

7 Q. But, if we're looking to exclude amosite exposure
8 as a cause in typical cases, we can look at the published
9 literature and then we can see that in virtually all
10 occupational categories where people have been making
11 claims of mesothelioma. And where the work has been
12 done, the overwhelming majority of those cases up near
13 the 90th percentile, they're able to identify amosite at
14 above background levels in those categories of workers.
15 You don't dispute that, do you?

16 A. Certainly, studies have demonstrated amosite in
17 this group of workers and I don't dispute that. But,
18 again, these studies are not going to be sensitive or
19 have much utility for chrysotile.

20 Q. Sir, are you an advocate?

21 A. I am not.

22 Q. Okay. I asked a simple scientific question. And
23 the scientific question was: Is amosite documented in
24 the scientific literature to be demonstrated at
25 above-background rates, above-background levels, in the

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1 lungs of people who made claims for occupational exposure
2 to asbestos? Is the answer yes?

3 A. It is yes.

4 Q. Thank you.

5 A. But I did try to be complete.

6 Q. You agree that there is something called the
7 scientific method?

8 A. Yes.

9 Q. And Dr. Garabrant talked about it. You'd agree
10 that you either use case reports or some other form of
11 initial observation to formulate a hypothesis; correct?

12 A. Yes, agree with that.

13 Q. And then you do scientific studies?

14 A. Yes.

15 Q. Collect all the data?

16 A. Correct.

17 Q. Define it in a protocol and then try to do
18 controlled studies; correct?

19 A. Yes. Although I would have some comment on the
20 use of controlled studies, because epidemiologic
21 investigation also includes observational studies of
22 rates that may not have a controlled group. So one would
23 consider those, as well, in the body of evidence, but,
24 certainly, one would want to look at controlled studies
25 as well.

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1 Q. And after looking at the controlled studies, you'd
2 see if there's a statistically significant demonstration
3 demonstrated in a series of studies; right?

4 A. Yes. If the study is designed so that there's a
5 comparison group that could undergo a statistical test,
6 sure, you would consider that.

7 Q. And when it's reported, you try to graph it all
8 out in this manner. Can you -- the rates of relative
9 risk are stated like this. And then you'd cumulate your
10 studies and you'd try to make a graph to see whether
11 they're statistically significant studies. Right?

12 A. Well you would have an observation in this type of
13 study where you compare an exposed and an unexposed
14 group. You would have an observed relative risk and you
15 would do a statistical test to see if the confidence
16 interval was statistically significant and didn't include
17 one.

18 Q. Okay. And we've talked a little bit about
19 cigarette smoking. You agree -- well, do you agree that
20 cases have been reported among cigarette smokers? Right?

21 A. They have. And I concur with the opinions that
22 there's not an association between cigarette smoking and
23 mesothelioma.

24 Q. You can find lots of case reports. But the bottom
25 line is, when you look at all the epidemiology, there's

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1 not a significantly increased risk; correct?

2 A. Yes, that's true.

3 Q. You agree that as a scientific matter -- as a
4 scientific principle, it would not be scientifically
5 valid to make conclusions about the levels of exposure
6 from typical workplace activities with gaskets, based
7 primarily on worst case scenario data?

8 A. That's true. One has to consider the range of
9 exposure and apply representative studies to that
10 activity.

11 Q. There's been a bit of a debate in the industrial
12 hygiene about whether hammers were ever used to remove
13 thermal insulation. Your experience has been that you've
14 -- in your -- in your interviews and in what you've seen,
15 you've seen that reported numerous times. Correct?

16 A. That's true. Yes.

17 Q. You mentioned that one of the methodological bases
18 of your -- of the way you formulate opinions is the
19 Helsinki criteria. Correct?

20 A. That's correct. Yes.

21 Q. You cited it as Tossavainen 1997 in your report;
22 is that correct?

23 A. That's correct.

24 Q. And from your rebuttal report, you notice -- you
25 had read Dr. Anderson's report; she's an expert for the

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1 Debtors in this case. You had read that; right?

2 A. Yes.

3 Q. And you noted that she was correct that the
4 Helsinki statement from 1997 has, as one aspect, a
5 preventive application. Correct?

6 A. Yes. I agree with that. I disagreed that it
7 wasn't an important clinical tool; I emphasized that.

8 Q. Okay. And among the things that were stated, and
9 they're very careful, they used a term of art called
10 "attribution." Correct?

11 A. There was discussion of that. Yes.

12 Q. And one of the specific things they were doing was
13 defining parameters for attribution that could be used
14 for further public health research. Correct?

15 A. Yes. I don't disagree with that.

16 Q. Okay. And one thing you do when you do further
17 research is you want to include as many cases as possible
18 so that your research includes cases possibly caused by
19 the toxin at issue. Correct?

20 A. Well, I think you want to be systematic in your
21 collection of cases. You want to have a sound
22 methodology for identifying cases.

23 Q. You agree, I believe -- and I guess I'll ask.
24 There is something called a public health perspective;
25 correct?

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1 A. Yes, I agree with that.

2 Q. And it employs a protective principle; correct?

3 A. Prevention of illness. Yes.

4 Q. Right. And in preventing illness, the area in
5 which you're trained and certified, that perspective is
6 to err on the side of overprotective. Correct?

7 A. Well, certainly, protection should be maximized.
8 I mean one has to look at the specific approach and
9 method, but the goal is to protect workers from
10 exposure-related disease.

11 Q. Right. And when you're doing that, when you're
12 protecting workers, you're not making a determination
13 that, necessarily, the limits you set are at the very
14 edge where -- above those limits there's going to be
15 cause. You want a safety factor; correct?

16 A. Ideally, you do. But it depends on the
17 recommended limits and what ultimately is practical in
18 terms of permissible limits. In terms of regulatory
19 limits there are often practical limitations that don't
20 allow a buffer zone, and that's recognized by OSHA in
21 terms of their action levels.

22 Q. Sir, you agree that public health officials often
23 have to make regulations in areas where they don't have
24 actual observational data. Correct?

25 A. That's possible in the abstract. I don't think

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1 that relates to asbestos, but it's possible in the
2 abstract.

3 Q. Well, you agree -- have you looked at the
4 underlying regulations that you cited to the Court in
5 your Direct?

6 A. I have. I mean, I'm not a regulatory expert but,
7 certainly, as an occupational medicine physician, I'm
8 familiar with them.

9 Q. And you know that those regulations were based on
10 a risk assessment using a model developed in the 1980s.
11 Correct?

12 A. Some of them are based on risk assessments.

13 Q. The EPA model and the OSHA models specifically
14 talk about that they constructed a model.

15 A. There are models used for regulatory assessment.

16 Q. And they use data about people whose exposure was
17 computed in cumulative lifetime exposure, mostly in the
18 hundreds of fiber years. Correct or incorrect?

19 A. Well, I'd say incorrect. Because the data that's
20 been available, certainly since 1998 -- at least the
21 French registry looked at exposures below one fiber per
22 cc as well and found risk. So that data has been around.
23 Now, it's been refined. In 2001 Rodelsperger identified
24 also below one fiber per cc dose responses.

25 Q. I apologize if my question was imprecise. I was

Cross - Brodkin

1 asking about the risk model that was used by OSHA that
2 was developed in the 1980s. Do you understand that's
3 what I'm asking you about, sir?

4 A. Yes. I'm not a regulatory expert. I can't really
5 speak to that specific model.

6 Q. So, before coming into the court and talking about
7 all these regulations, you did not make the effort to
8 determine what the basis was upon which those regulations
9 were formulated?

10 A. Well, as an occupational medicine physician --

11 Q. You did or you didn't, sir? Did you or didn't
12 you?

13 A. I haven't read the actual regulations in all cases
14 to speak to their specific modeling. That's outside of
15 my area.

16 Q. Okay. In the expert reports that will be before
17 the Court, I'll ask you to assume that what they say is
18 true and that the 1980's regulatory model was based on a
19 risk assessment that took data observed that was
20 primarily people who had been exposed to hundreds of
21 fiber years of asbestos. There was one group that had
22 about 52 fiber years and that was the lowest group.
23 Assume that to be true. And if -- assume, also, that
24 that risk model then recognized that there was a zone of
25 inference where they didn't know because they didn't have

Cross - Brodtkin

1 observational data and that they used a straight line, no
2 threshold model, to project risk. If that's true, sir,
3 then those regulations were based on a regulatory
4 judgment in an area where we don't have data; correct?

5 A. In 1980 that would probably be true. It's not
6 true as of 1998. Certainly, there would have been data
7 in that range. And to use only an exposure at 55 over cc
8 years would truly be looking at the high end but not at
9 the total range that had been looked at, certainly, by
10 1998.

11 Q. And you mentioned these models, and you mentioned
12 a study by Camus in 1998. Correct?

13 A. In the late 1990s. Yes.

14 Q. That was a study where they actually looked at
15 real data and they found that this risk model had
16 overestimated, by a tremendous amount, the number of
17 expected cases. Correct?

18 A. I'm not sure which Camus article you're
19 referencing.

20 Q. The one you cited, sir.

21 A. Well, in the New England Journal of Medicine --

22 Q. Yes.

23 A. -- in the article? Certainly, the finding of high
24 risk, sevenfold increased risk, among -- with indirect
25 exposure of women not working in mines would be an

Cross - Brodtkin

1 argument for risk at the low end of the exposure range.

2 Q. Sir, my question was, again, a scientific
3 question. In that article, they wrote that the risk
4 model from the '80s predicted far more cases than they
5 actually found. Is that true or is that false?

6 A. They may have. I don't -- I don't have a working
7 memory of that statement. But in terms of my opinions
8 about the article, it certainly raises concern about the
9 low end of the exposure range.

10 Q. So if a risk model that, according to the
11 documents you cited, overestimates cases, you didn't take
12 that into account when you talked about the projected
13 number of cases at very low exposures?

14 A. Well, I took into consideration the known dose
15 response for a asbestos. And in looking at your graph, I
16 think there's clear evidence that the current state of
17 knowledge is different. The actual risk for asbestos may
18 be superlinear in the low range based on current data.
19 So I don't think the 1980s data, as you've portrayed it,
20 is really up-to-date in terms of the overall dose
21 response at the low end of the spectrum.

22 Q. So the 1980s data that these regulations are based
23 on is not up-to-date. We know, as you've just said, that
24 it overestimates cases. And, of course, you have no
25 studies in which the authors conclude that the dose is

Cross - Brodtkin

1 superlinear. What you have is a statement in the Berman
2 and Crump analysis; correct?

3 A. Yes. Berman and Crump did find a superlinear
4 relationship.

5 Q. Actually, what they found is that that was one
6 model. But Berman and Crump, in that analysis, found
7 that chrysotile could -- that the model fit with
8 chrysotile not being a cause of mesothelioma at all. And
9 if it is a cause, it was nearly 1,000 times less potent
10 on a fiber-per-fiber basis than the amphiboles. Correct
11 or incorrect?

12 A. Berman and Crump said that. Their paper was
13 rejected by the EPA based on their methodology for lack
14 of exposure.

15 Q. Okay. Let me get this straight. You want to use
16 one statement of Berman and Crump on this superlinear
17 model, but you reject everything else in Berman and Crump
18 when they say that chrysotile isn't a cause. Is that
19 correct?

20 A. Well, you brought up Berman and Crump.

21 Q. I just want to --

22 A. I was just responding to your statement.

23 Q. No. Actually, you brought it up. Sir, you
24 brought up the reference to the superlinearity. And if
25 you're relying on an article, is it scientifically

Cross - Brodtkin

1 reliable to pick and choose portions of an article to
2 rely upon?

3 A. One should look at the article for the
4 methodology.

5 Q. Thank you, sir. This public health perspective.
6 We've heard about case series. In your report, you say
7 that for rare diseases such as mesothelioma, where there
8 are few other known causes, case series are sufficient
9 for triggering an effort to eliminate exposure. Correct?

10 A. That was a quote, I believe, from Harvey Checkoway
11 from our textbook.

12 Q. Right. And in the textbook, that is the use to be
13 made of case series, triggering efforts to eliminate
14 exposure. That is a public health purpose, is it not?

15 A. I agree with that. Yes.

16 Q. Thank you. Now, getting back to this issue of the
17 Camus study and the so-called problem of low-dose
18 exposure that you've tried to construe that as. It's
19 true, is it not, that after 1998, Camus did what he said
20 he was going to do in the Camus article: He conducted
21 further research. Correct?

22 A. Ongoing research has been performed on the Quebec
23 mines. That's correct.

24 Q. And we've heard about that research from
25 Dr. Weill, I believe. They looked at women who live near

Cross - Brodtkin

1 the Thetford Mines and the women who lived near the
2 asbestos mine; correct?

3 A. Those would be the areas, the mining area.

4 Q. And the only place they found an increased number
5 of mesotheliomas among those women was among the women
6 living near the Thetford Mine where there was heavy
7 tremolite contamination. Right?

8 A. I believe they did find cases in that area.

9 Q. And the people who lived near the asbestos mine,
10 the largest mine in Canada, where there is some
11 tremolite, but not at high levels, those women had no
12 increased mesothelioma. Correct or incorrect?

13 A. I believe the cases were more strongly aggregated
14 around Thetford. That's my general recollection.

15 Q. And you tried to use the Camus studies to try to
16 talk about low-dose exposure. But, in fact, Camus and
17 his co-authors made a detailed analysis to determine what
18 the level of exposure was of these women who lived right
19 there on the mines. Correct?

20 A. Certainly, there was some attempt at that. These
21 weren't women that were monitored, but some estimate.

22 Q. Okay. And according to Camus, the author you
23 relied upon, the level of exposure for those women
24 averaged in the hundreds of fiber years. Correct?

25 A. I would have to look at the report. That seems

Cross - Brodtkin

1 high for an indirect exposure. I don't have the article
2 in front of me to speak to the specific fiber per cc
3 year.

4 Q. In fact, in your report when you talked about the
5 Camus article, you cited the 1998 article but didn't even
6 cite the 2002 article. Isn't that correct?

7 A. I don't believe I cited it. I certainly wasn't
8 citing all the asbestos research; that would be thousands
9 of articles.

10 Q. Okay. You did not, in this case, undertake to do
11 a comprehensive review of all the literature to determine
12 up to the minute what the literature was; correct?

13 A. My goal was not to review the aggregate
14 literature, which is in the hundreds or thousands of
15 articles. It was to reference the representative
16 articles that inform my opinion.

17 Q. Do you agree with what Dr. Brody said, that the
18 acid test of who gets disease and what causes it is
19 epidemiology?

20 A. I don't agree with that in a broad perspective. I
21 think in a narrow perspective, that's true. One needs
22 epidemiology, I agree with that. But one is looking at
23 the broader body of evidence in the Bradford-Hill
24 criteria. It's not just epidemiology. There are other
25 areas of evidence.

Cross - Brodtkin

1 Q. You believe the Bradford-Hill criteria can be
2 applied in the absence of a statistically significant
3 association; is that correct?

4 A. Well, certainly, Bradford-Hill indicated that it
5 wasn't statistically significant associations, that's in
6 their paper. But in terms of magnitude of risk, the
7 strength of association, yes, I would want to see
8 statistical tests that prove that association.

9 Q. But, even if that was lacking, you would apply the
10 other Bradford-Hill criteria; correct?

11 A. Well, I would certainly look at strength of
12 association and want to look at evidence of increased
13 risk that's beyond chance. That would be my approach.

14 Q. Okay. So you, then, agree that the Bradford-Hill
15 criteria cannot be applied unless you first had a
16 statistically significant association demonstrated by a
17 series of studies. Is that correct?

18 A. I think you do need an association to apply
19 Bradford-Hill. I mean, if you don't have evidence of
20 association, you're really not ready for the next step to
21 look for causation.

22 Q. Okay. And so if somebody purported to be making
23 conclusions without a statistically significant
24 association, they would not be applying scientifically
25 reliable methodology. Correct?

Cross - Brodtkin

1 A. Well I think there would be a concern there that
2 you've observed an association, but is it a real
3 association beyond chance? So that would be the
4 question.

5 Q. Okay. You mentioned that your report did not
6 attempt to be comprehensive or even up-to-date.

7 A. Well, I disagree with that characterization. I
8 wanted it to be comprehensive in terms of the articles
9 that informed my opinion. My aggregate reports in this
10 case, I believe, were upward of 200 references, but it
11 wasn't to do a complete review of the asbestos
12 literature; that would be thousands of articles.

13 Q. Sir, just to get one example so the Court
14 understands your methodology. One of our experts talked
15 about the experience in South Africa. And you would
16 agree that in South Africa, the peer-reviewed literature
17 reports an absence of cases of chrysotile-induced
18 mesothelioma. Correct?

19 A. Yes. In the chrysotile mines of South Africa,
20 there hasn't been a case in a worker that's only worked
21 in the chrysotile mines.

22 Q. And in your report, you reported that you were
23 relying on Rees 1999. And you said that that wasn't
24 surprising, and your reasons were that chrysotile mining
25 began much later than amphibole mining. And this sign,

Cross - Brodtkin

1 that means "after" in it in scientific terms?

2 A. "After" or "greater than or equal to."

3 Q. 1960. That was your first reason that -- you had
4 two reasons. One, that the mining only began after 1960.
5 The second reason, that there was a much smaller number
6 of exposed workers at risk. Correct?

7 A. Yes. And certainly, that's discussed by Rees as
8 possible factors as to why they didn't find mesothelioma
9 cases in chrysotile miners.

10 Q. Okay. And the statement that mining of chrysotile
11 began much later is actually scientifically untrue.

12 A. Well, I've read the Rees article and I think it's
13 a fair characterization. They chart the tonnage of each
14 of the individual fibers. Chrysotile doesn't reach
15 tonnage reporting until after 1960. Now there was
16 chrysotile mining as early as the 1930s, but it was very
17 limited.

18 Q. Sir, in your report to this Court, a federal court
19 report, you said chrysotile mining began only after 1960.
20 The introduction to Rees 2001 says that it began in 1920.
21 Correct?

22 A. At a very limited level. Yes.

23 Q. And it started in 1937 at a very significant --
24 well, the most significant mining started in 1937. Is
25 that what's been reported in the literature?

Cross - Brodkin

1 A. The Rees article says that chrysotile is very
2 limited. In fact, they report only 1,000 to 2,000
3 chrysotile mining workers. I mean, if you're looking for
4 a disease that occurs in one in a million people, that's
5 not going to be very sensitive, and they discuss that
6 themselves, that chrysotile mining and the tonnage level
7 came after 1960.

8 Q. Sir, is it scientifically reliable to reach
9 conclusions about data different than the conclusions
10 expressed by the authors who reported that data in the
11 peer-reviewed literature?

12 A. No. I certainly consider what Rees reported and
13 discussed.

14 Q. So, Rees considered the argument you made about
15 this issue. He said one explanation for the absence of
16 exclusively chrysotile cases is that the -- that
17 production and use of material in South Africa was so
18 limited, that the small number of exposed individuals has
19 resulted in a paucity of cases. So he addressed your
20 argument.

21 A. Yes.

22 Q. And then he said this seems unlikely. Right?

23 A. Yes. I mean, you've read it correctly.

24 Q. When you cited this in your report, you didn't
25 include that Rees rejected your argument; did you?

Cross - Brodtkin

1 A. Well, I wasn't citing verbatim the report. I did
2 reference the report so you could read it.

3 Q. Okay. He says it's unlikely because, as shown in
4 table seven, they estimate chrysotile production at about
5 30 percent of total asbestos production by the end of the
6 1970s. Correct?

7 A. Correct. Beginning in the 1960s.

8 Q. Okay. And the business about when it started
9 relates to latency. Latency. If it's in the 1960s or
10 '70s, by the late 1990s or 2000s, we've got 30 or 40
11 years of latency; right?

12 A. Well, you have some latency. It's not nearly as
13 long as they have for the amphiboles; that's the
14 limitation of the study.

15 Q. And then they say -- you talk about substantial
16 numbers. Substantial numbers of workers work in
17 chrysotile production from the '30s to the mid-'80s.
18 They characterized it as a substantial number, a number
19 that you characterized as not very significant: Roughly,
20 that 1,000 to 2,000 workers were employed at any time.
21 And there were about 2,600 in 1960, which was 17 percent
22 of asbestos miners. They say, it seems unlikely from
23 these data that scarcity of exposed workers is an
24 adequate explanation for the absence of cases. Is that
25 what they said?

Cross - Brodtkin

1 A. You've read it correctly. Yes.

2 Q. And that's not the only study that has looked at
3 this. There's a study by White in 2008; correct?

4 A. There have been other studies of the South African
5 experience.

6 Q. But in updating the Court and updating the
7 literature, you didn't cite the White case -- the White
8 report.

9 A. I don't recall citing that. No.

10 Q. They say no confirmed cases of mesothelioma have
11 been detailed in the literature. With relation to South
12 Africa and chrysotile mining, there's a high prevalence
13 of cases from the Cape crocidolite mining region. The
14 lower number of cases from Limpopo province where amosite
15 and Transvaal crocidolite was mined was not linked to the
16 sizes of the two work forces. At the height of
17 production, the number employed in the amosite and Cape
18 crocidolite mines were comparable. Correct?

19 A. That's true. And in my paper I cite Sluis-
20 Kramer. And certainly it informs my opinion that
21 amphiboles are more potent than chrysotile. I think the
22 South African experience is actually important in that
23 regard and I've cited it in my paper.

24 Q. Yeah. There's no question that the amphiboles are
25 much more potent than chrysotile; correct?

Cross - Brodtkin

1 A. I think the South African data does point to that.
2 Although in the adjacent area of Zimbabwe, certainly, in
3 those chrysotile mines, the miners do have documented
4 mesotheliomas.

5 Q. And there's anthophyllite in Zimbabwe, and we
6 don't have a lot of studies reporting relative risks from
7 those areas.

8 A. We don't have studies reporting relative risk but,
9 certainly, occurrence.

10 Q. Okay. Occurrences. That's case reports?

11 A. Not case reports. I mean Cullen, in the American
12 Journal of Industrial Medicine, 1991, reported two
13 mesothelioma cases out of the 51 individuals from the
14 Zimbabwe mines that had asbestosis. So, it's a series.

15 Q. Okay. Two cases -- two case reports, that makes
16 it a case series?

17 A. Well, this was an aggregate defined upon
18 population of 51 miners.

19 Q. Going to your methodology. During your
20 deposition, I showed you -- you've relied heavily on work
21 by Dr. Richard Lemen. Correct?

22 A. Certainly, Dr. Lemen's articles inform my opinion.

23 Q. And those were articles that not only inform your
24 opinion, but they actually are articles you rely upon.
25 Correct?

Cross - Brodtkin

1 A. I do. Yes.

2 Q. And in fact, when your report discussed the
3 Bradford-Hill criteria, for most of those criteria you
4 said, well, Dr. Lemen has looked at this and you didn't
5 do a thorough analysis of it in your report. Correct?

6 A. Well, I referenced Dr. Lemen's 2004 article, I
7 believe, where he discusses the Bradford-Hill criteria.

8 Q. And I read you what Dr. Lemen had said about an
9 affidavit he had prepared in a case, a Waters & Kraus
10 case back in, I think, 2001. Do you recall my doing
11 that, sir?

12 A. I think you have it printed here, so I'll read it.

13 Q. Sure. And the importance of my reading that to
14 you was because in our expert reports -- our experts
15 reports, for Rule 104 purposes, have looked at the Lemen
16 paper that was published. And large portions of it, the
17 overwhelming majority of it, is word for word what he
18 wrote in an affidavit in the Waters & Kraus case. You
19 understood that from reading our reports; is that
20 correct?

21 A. Well, I can't speak to it. I haven't -- I mean,
22 I've been informed of that in the deposition. I mean,
23 it's here. I haven't reviewed Dr. Lemen's affidavits
24 independent of that.

25 Q. Okay. Dr. Lemen was, of course, paid for his time

Cross - Brodkin

1 to prepare this affidavit and was doing work for Waters &
2 Kraus, if what's in our expert reports is accurate. And
3 you didn't know that. Because when you read Dr. Lemen's
4 article, there was no disclosure in Dr. Lemen's article
5 that his work had been paid for by a plaintiff's firm.
6 Correct?

7 A. I don't recall seeing that in the report.

8 Q. Okay. We discussed his methodology in an effort
9 to determine whether it was the same methodology you were
10 using or were comfortable with; is that correct?

11 A. There was a discussion of that. Yes.

12 Q. Thank you. And I -- as I quoted from a
13 deposition, when I was asking him about his affidavit,
14 "Would you agree with me, sir, there have been
15 statistical studies done showing exposure to pure
16 Chrysotile where no one got mesothelioma?"

17 And he answered, "There have been studies. Yes."
18 And then I asked this question: "Would you agree
19 with me that in your effort to be candid with the
20 Court, you didn't include those studies in your
21 report, that is this affidavit?"

22 And his answer was, "If you know anything about
23 the way science is written, you don't always
24 include every study that has been done. You
25 include the studies that show the association."

Cross - Brodkin

1 And then I asked you how you felt about it, and
2 you said you were comfortable with that approach.
3 Correct?

4 A. I did indicate that Dr. Lemen's commentary on the
5 Bradford-Hill was something I was comfortable with.

6 Q. Okay. And you said that you have used that kind
7 of methodology; correct?

8 A. I was speaking to the Bradford-Hill methodology,
9 yes. I indicated that.

10 Q. Okay. And that was also the article, was it not,
11 that appeared in a journal that is now edited, or has
12 since been edited, by Dr. David Egilman; is that correct?

13 A. I don't know if it was at the time, but I believe
14 Dr. Egilman has been an editor of that journal.

15 Q. And you understand Dr. Egilman is an expert for
16 plaintiffs in asbestos litigation?

17 MR. FROST: Your Honor, I do have to object to
18 that. He mischaracterizes Dr. Egilman. He testifies for
19 both plaintiff and defendants.

20 MR. SCHACHTER: I agree he testifies for both
21 plaintiffs and experts, but he is a plaintiff's expert.

22 THE COURT: Let him answer the question if he can.

23 THE WITNESS: I'm not aware of Dr. Egilman's
24 testifying. I'm aware he has testified in plaintiff's
25 cases, but I don't know what his record of testimony is.

Cross - Brodtkin

1 BY MR. SCHACHTER:

2 Q. You saw when you looked at this article by
3 Dr. Lemen, that it appeared in a special edition of that
4 journal?

5 A. Yes. It was indicated it was a commentary.

6 Q. Yes, it was a commentary. And the guest editor in
7 that edition was Laurie Kazan-Allen. You saw that, too;
8 right?

9 A. I don't recollect it, but I may have seen it or
10 may have been shown at my deposition. Sure.

11 Q. And you know that she is the sister of Mr. Kazan,
12 who is one of the plaintiff's lawyers on the West Coast;
13 correct?

14 A. I have no knowledge of that. No.

15 Q. Let's talk about some of the other studies and
16 whether you -- you're comfortable with only citing the
17 studies that support the association and not those that
18 draw it into question. You cited a study by Madkour
19 during your Direct Examination; did you not, sir?

20 A. I did. Yes.

21 Q. Is it correct that when the Madkour study, which
22 was, I guess it had a lot of Arabic at the top. Was it
23 published in a -- it was published in the Eastern
24 Mediterranean Health Journal; correct?

25 A. That's correct. There is an abstract in Arabic as

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1 well as English. The article is in English.

2 Q. And you read it in the English, not the Arabic, I
3 hope?

4 A. Yes, I did.

5 Q. Okay. And what it reported is on this one plant,
6 and this is a plant people lived around, was that it is
7 an asbestos manufacturing plant using chrysotile
8 asbestos. It was constructed in 1948 and its main
9 products were asbestos cement pipe and reinforced
10 concrete products. Correct?

11 A. Yes.

12 Q. And the statement in that article was in present
13 tense, that it's currently using chrysotile. Correct?

14 A. It was indicated it was a chrysotile process.

15 Q. All we really know from this is that it's
16 currently a chrysotile plant. You did not disclose that
17 there have been other studies in Gaafar, 2007, that
18 explained asbestos manufacturing began in Egypt more than
19 50 years ago. By 2004 there were 14 asbestos factories
20 employing thousands of workers. Asbestos is imported
21 from Russia and Canada and is used in the manufacture of
22 asbestos cement pipe, roofing and wall materials, valves,
23 joints, sealants, clothing, cord, strings, clutches,
24 brake linings and pads. Crocidolite and amosite were
25 used in pipes and corrugated sheet until fairly recently.

Cross - Brodtkin

1 Correct?

2 A. Yes. And I think that experience is like North
3 America being crocidolite has been used in asbestos
4 cement pipes.

5 Q. So in the Madkour case, these were people living
6 not only near the one chrysotile, current chrysotile
7 plant, but they were living in a region where there were
8 14 of these plants all around. And crocidolite had been
9 used, until it was banned eventually, in Egypt for many
10 years to make products; correct?

11 A. Well, I certainly agree that Egypt isn't unique in
12 only using chrysotile. Crocidolite was used. I rely on
13 the article, and they provide a map of the plant and
14 radiuses around it. They don't speak of other plants.
15 So I don't have independent knowledge of where those
16 plants are. I can't testify to that.

17 Q. Okay. But in looking at the scientific
18 literature, you could have found the Gaafar article,
19 right, if you had been looking?

20 A. I'm aware of other articles from Egypt that
21 indicate that amphiboles were used. I mean Egypt is not
22 unique from other countries, but I rely on the Madkour
23 article, at least, in forming my opinion about the plant
24 and the distribution around the plant. I don't know of
25 any other article that does that.

Cross - Brodtkin

1 Q. I'd like to focus now on the methodology that you
2 employ for analyzing what our experts have said is the
3 most relevant literature to the low-dose exposure one
4 might expect from chrysotile gaskets. Can we turn to
5 that subject?

6 A. Certainly.

7 Q. Okay. You have cited Iwatsubo and Peto and
8 Rodelsperger for low-dose exposure; correct?

9 A. Yes. And those are the two -- and the follow-up
10 by Rolland in 2006.

11 Q. And you agree, I'm sure, with what our experts
12 have said that in Iwatsubo they put the fiber per
13 milliliter-years in quotes because they had substantial
14 uncertainty about their exposure about -- it was an
15 index. It wasn't an attempt to determine what the fiber
16 years were; correct?

17 A. I agree that it was put in quotations. They
18 indicated that their methodology was a retrospective
19 exposure assessment. It wasn't based on realtime
20 measurements, so they did put it in quotations.

21 Q. They used an index that they called an "index" and
22 not an attempt to determine fiber per cc years, or do you
23 disagree with me on that?

24 A. Well it was a job exposure index that was based on
25 intensity and frequency of exposure to derive the metric.

Cross - Brodtkin

1 Q. In Iwatsubo they were not saying anything about
2 fiber type, were they?

3 A. I don't think one can use Iwatsubo to make
4 statements about fiber type, because it is a national
5 registry. And as I said yesterday, it isn't uniquely
6 designed to look at a specific fiber type.

7 Q. Right. So you can't use Iwatsubo to determine
8 anything about low-dose exposure to chrysotile products
9 where the exposure is exclusively chrysotile. You
10 disagree or agree?

11 A. I don't think you can use Iwatsubo to distinguish
12 the fiber type dose response. It will give you the dose
13 response for asbestos as it was used in France, that is
14 95 percent chrysotile. But overall, you have to consider
15 it's a mixed exposure.

16 Q. Okay. And when you say dose response or when you
17 say dose response for asbestos, you recognize as a
18 scientific fact that there are different substances that
19 go by the commercial name asbestos; correct?

20 A. The major commercial fibers would be the three:
21 Chrysotile, amosite and crocidolite.

22 Q. And each of them is a unique toxin that must be
23 analyzed uniquely because they're different chemicals or
24 minerals. Correct?

25 A. They do have different mineralogic properties,

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1 although they have many biologic properties that are in
2 common. And I spoke to that yesterday that, as a
3 clinician, I don't spend much time on those -- in my
4 field, I don't spend much time distinguishing between the
5 fiber types because they do have a very similar
6 biological property. But, mineralogic, they are
7 different.

8 Q. And to be clear, your field is a clinical practice
9 where you're seeing patients. Right?

10 A. Yes. And I consult.

11 Q. And consulting. The Iwatsubo article is -- and
12 the other, one Rolland and Rodelsperger, all three fall
13 into the same category. They're not specific to
14 chrysotile fibers; correct?

15 A. I would agree with that.

16 Q. Thank you. But those populations have been
17 studied for products that are likely only chrysotile;
18 correct?

19 A. Certainly, in looking at different occupations,
20 there are some occupations that tended to use chrysotile
21 products versus others that may have used mixed
22 exposures.

23 Q. And you would agree that the Iwatsubo French
24 population has been studied with regard to -- or even a
25 larger study in the French population was studied by

Cross - Brodtkin

1 Rolland on one of your authors -- excuse me while I come
2 over here. We've heard about this before: Rolland,
3 2010. You're familiar with that study; correct?

4 A. And I agree it shows about a 50 percent increase
5 of mesothelioma rates that were not statistically
6 significant. There were only 17 motor vehicle mechanics
7 in the Rolland study.

8 Q. You agree as a scientific principle that no
9 statistically significant association was shown for work
10 with the low-dose chrysotile products in the Rolland
11 study; is that correct?

12 A. I would agree with statistical significance. But
13 I would indicate that a 50 percent increase is something
14 of concern, particularly because Rolland discussed the
15 limitations of their study in terms of being able to take
16 an occupational history.

17 Q. Okay. You would also agree that Woitowitz, 1994,
18 studied the same people that were in the study by
19 Rodelsperger and he, too, found no statistically
20 significant association; correct?

21 A. That's true. And I would consider that study
22 inconclusive based on the limitations that Woitowitz
23 discussed, that only about two percent of their work
24 force could they classify as only being motor vehicle
25 mechanics.

Cross - Brodtkin

1 Q. But you would agree that both Rolland and
2 Woitowitz provide data on low-dose exposure to chrysotile
3 products that was reported and accepted in the peer
4 reviewed literature. Correct?

5 A. Certainly, the French registry does provide
6 information about a wide range of dose response that
7 would include the low-dose response range.

8 Q. Now, Dr. Garabrant went through the peer-reviewed
9 literature, the case-controlled studies and cohort
10 studies. You commented on those in your report; is that
11 correct?

12 A. Yes. I was provided an opportunity to review
13 Dr. Garabrant's report.

14 Q. And you rejected, basically, his conclusion about
15 the low-dose products not being a statistically
16 significant cause of mesothelioma; right? Correct?

17 A. I did disagree with his conclusions. It was my
18 opinion that he had focused on articles that did not or
19 were not designed to take comprehensive occupational
20 histories and really define a mobile group like motor
21 vehicle mechanics. So I didn't find them useful in terms
22 of ruling in or ruling out an association. They're
23 clearly inconclusive. But then I cited a number of
24 cohort studies that informed my opinion that there is an
25 increased risk --

Cross - Brodtkin

1 Q. I want to go through those. But are you sure you
2 want to be on record as saying he didn't include studies
3 that took a comprehensive questionnaire to find out what
4 people had really been exposed to?

5 A. Well, he did, I believe, describe the Rake study
6 where a more comprehensive questionnaire was used. But
7 still, only 44 percent of those workers were actually
8 given questionnaires. That's a pretty limited study.
9 The other ones are proportional mortality ratio studies
10 and case-controlled studies where many workers were
11 already deceased and didn't have occupational history.

12 Q. Excuse me. I didn't catch the name of the study
13 that you admitted that had questionnaires. What was
14 that?

15 A. Rake and Gillam. 2009, I believe.

16 Q. Okay. You know that he cited Rake and Peto;
17 correct?

18 A. Well, Peto was the senior author on that paper.
19 So that's probably the same one, the British Journal of
20 Cancer. Yeah.

21 Q. Okay. So he cited peer-reviewed articles showing
22 the statistically -- reporting statistical significance,
23 if there was any. And where a series didn't show them,
24 you put up against that three cites, numbers 23, 24, 25
25 and 26. Is that correct?

Cross - Brodtkin

1 A. I did cite those. Yes.

2 Q. Okay. So it would be fair for us to look at what
3 those authors said; right? The first thing is you said
4 that he didn't even cite -- not cited by defense experts.
5 Right? You claimed that he hadn't cited these four
6 studies.

7 A. Well, I don't think he considered them. I
8 discussed them in that context.

9 Q. Okay. So when you say "not cited," you agree that
10 Gustavsson, which is I think the reference 24, was of
11 course cited in his report. Correct?

12 A. To be totally accurate, it may have been cited but
13 I don't think in his conclusion it was considered.
14 That's what I was speaking to.

15 Q. Okay. And now this, you're familiar with the
16 study; right?

17 A. Yes.

18 Q. This is a copy of the chart that Gustavsson
19 prepared where he reported relative -- well, SMRs which
20 is a kind of risk ratio; correct?

21 A. Yes, for mortality studies.

22 Q. Yeah. And he listed all the cancer sites. And
23 you would agree that he did not list any elevated risk
24 for mesothelioma.

25 A. No, that was discussed in the text that there were

Cross - Brodtkin

1 two cases among the approximately 600 garage workers.

2 Q. Just so the record is clear, you said no. My
3 question was: Is it true that when reporting the results
4 that were statistically significant, Gustavsson did not
5 report a statistically significant increased risk of
6 mesothelioma?

7 A. Not in this table. But in the text of the
8 article, he does report the two cases and does give the
9 dose -- the dose exposure in the garage.

10 Q. Isn't it true that the author of this study,
11 Gustavsson, 1990, in the paragraph you're referring to,
12 starts the paragraph by saying, "No effect from exposure
13 to asbestos was found?"

14 A. Well, I think you have to look at it in the
15 context of the whole article. I think there is a concern
16 about mesothelioma here. He does report that as two
17 cases.

18 Q. I understand. But we have case-controlled studies
19 with statistical significance, and one of the studies
20 you're citing against that is a study where the author
21 said there's no effect from exposure to asbestos that was
22 found. Is that true or false as a scientific concrete
23 fact?

24 A. Well I think the statement is correct, but you
25 have to read it in the context of the article.

Cross - Brodtkin

1 Q. And we can read the rest of the paragraph. They
2 mention two people that worked in garages that did get
3 mesothelioma. Both of them were old when they began that
4 work, comparatively, for this kind of exposure, 27 and
5 31. Is that correct?

6 A. That's my general recollection.

7 Q. And lots of people have lots of jobs where they do
8 dirty, dusty work with insulation products before their
9 mid-20s; correct?

10 A. That's possible. Yes.

11 Q. Yeah. And the author said both may have been
12 exposed to asbestos during previous employment?

13 A. They said they may have. So there is a discussion
14 that there could have been other exposures.

15 Q. Okay. So according to the authors, no
16 statistically significant information reported two cases
17 but, generally, no effect from exposure to asbestos was
18 found. That's reference 24. Now let's go to reference
19 23, 25 and 26. Those are your other three references
20 that you're putting up against the case-controlled
21 studies in the peer-reviewed literature. Correct?

22 A. They are references I cited in cohort studies.

23 Q. And 23 was Hansen. Do you recall that?

24 A. Yes.

25 Q. And 25 was Malaker; and 26 was Pukkala.

Cross - Brodtkin

1 A. I believe it's an E instead of a U on Malaker.

2 Q. I'm sorry. I did this late last night and I'm
3 exhausted from preparing for this trial. I apologize for
4 my error.

5 Now, all of these used a similar study design
6 technique; correct?

7 A. They're all cohort studies.

8 Q. They're cohort studies of a very specific kind;
9 right?

10 A. I guess you'll have to clarify your question.

11 Q. Okay. They linked up occupations. Let's say
12 Hansen. Occupations reported in a 199- -- 1970 census.
13 They looked at the census and then they looked at the
14 cancer registry and they saw for anybody who, on a given
15 date in 1970, reported themselves with a given
16 occupation, they'd look at the cancer registry to see how
17 many people with that occupation got mesothelioma. Is
18 that a fair -- is that how you understand the study was
19 done?

20 A. I believe in their methods they did discuss how
21 they defined the cohort, how they found the group of
22 motor vehicle mechanics. I would have to read the
23 methodology specifically, but my general recollection is
24 it would include these sources.

25 Q. I'm going to ask that we get a copy of all three

Cross - Brodtkin

1 studies for you in case you have a question here, because
2 -- and I know it's tedious, but I really want to have a
3 clear understanding of your methodology.

4 Malmer did the same thing. Occupations reported
5 in 1960 census, and they compared that to the Swedish
6 national cancer registry; is that correct?

7 A. And I do have a general recollection that those
8 were sources that they used.

9 Q. I guess we can't find those studies right away.
10 If you need them, let me know.

11 A. Well, I have a general recollection of them.

12 Q. Sure. And the last one is Pukkala, that's number
13 26. That was occupations reported in all Scandinavian
14 countries. And they looked at cancer registries in those
15 Scandinavian countries; right?

16 A. Yes.

17 Q. The methodology here is linking census and
18 registry data; correct?

19 A. It's basically a methodology of defining the
20 cohort and then capturing disease as it occurs.

21 Q. Okay. And the author of one of those studies,
22 Malmer, in explaining his methodology, says the results
23 of this -- and he explains he linked it with the
24 registry, and he talks about the nature of it. And then
25 he says at the conclusion, "This seems most useful as a

Cross - Brodtkin

1 tool for generating hypotheses about the occupational
2 causes of cancer." He reported that about his
3 methodology; correct?

4 A. Yes. And Malaker was looking at a wide array of
5 occupations. So, yes.

6 Q. Okay. He was saying that this is the methodology
7 for generating hypotheses. This is a register study.
8 And if we go to our chart on the scientific method, all
9 three of these other studies are studies used to generate
10 hypotheses. Correct?

11 A. I would disagree with that in terms of Hansen and
12 Pukkala. I mean they have large numbers of cases for
13 various occupations. So, they're very robust studies. I
14 mean these studies can be viewed as generating
15 hypotheses. Studies always generate other ideas, but the
16 data is actually very robust. I mean it can be used to
17 inform your opinion about risk too.

18 Q. I know about informing opinion. But in terms of
19 controlled studies that demonstrate an elevated risk
20 where we have a full occupational history where we know
21 what people were really exposed to, not just on one day
22 of the census but throughout their lives, these studies
23 can't do that, can they, sir?

24 A. A cohort study has advantages of being more
25 specific about occupation but it does have its

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1 limitations too.

2 Q. Okay. And just so that we have the record clear.
3 One of the limitations of the studies that you cite these
4 three studies is that there is no interview occupational
5 history taken of these people to determine what they were
6 really exposed to at any time. Correct?

7 A. Well, certainly that is a limitation in some of
8 them. For example, in Pukkala, although they look at
9 automotive mechanics, it's a broader definition of
10 "mechanic." So there can be other occupations that also
11 do similar work.

12 Q. Okay. And that gets to the other point that we
13 want to get to but, first, I'd like a clearance. Each of
14 these studies, sir, look at occupation as that's
15 determined on one single date, the date of a census.
16 Correct?

17 A. I disagree with that. I think defining a cohort
18 is more robust than that. I mean they may have used a
19 regular occupation but it wasn't the sort of situation
20 of, did you ever do this? It was their recognized
21 occupation.

22 Q. As self-reported in a census; correct?

23 A. In some of the studies that's true.

24 Q. Sure. All right. And now let's look at Pukkala.
25 Because the number you use in Pukkala is this number from

Cross - Brodtkin

1 line 28; is that correct?

2 A. In my report. We didn't talk about that
3 yesterday. But in my report, yes.

4 Q. In the -- it's reference number 25 that you're
5 putting up against the case-controlled studies, many of
6 which work were detailed questionnaires. And you focused
7 on this category of mechanic; right?

8 A. Yes.

9 Q. Category 28. And you cite this relative risk of,
10 I guess it was for mesothelioma, the elevated relative
11 risk on that line. Correct?

12 A. Yes.

13 Q. And as you alluded to just a minute ago that the
14 Pukkala study as a description of the occupational
15 categories. And it's not auto mechanic, the phrase you
16 used once in your testimony. Mechanic is mechanics, iron
17 and metal are workers; includes workers who make products
18 of metal, and assembly and repair machine and motors.
19 The Danish data also includes welders in this category,
20 CF occupational category 30. In the definition of the
21 authors, they don't even include vehicles or autos, do
22 they?

23 A. Vehicle mechanics are included in this Swedish
24 definition category, but it's not unique to automotive
25 mechanics.

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1 Q. And that's your opinion. But if we look at the
2 language of it, that says that includes lots of different
3 workers.

4 A. Yeah.

5 Q. People that are preparing machinery?

6 A. There's a whole sub-publication on the
7 Scandinavian categorization and it's not unique to
8 automotive mechanics. That's true.

9 Q. When Pukkala even wrote this up and discussed
10 where the increased risk of mesothelioma has been shown,
11 when they're used in language, they say it's in miners,
12 insulation workers, manufacturers of cement, textiles,
13 thermal electric power plant workers, oil refinery, pulp
14 and paper production, petroleum industry, cigarette and
15 filter manufacturing, and railroad industry. Those are
16 the industries where those occupations arose, and none of
17 them are automobile mechanics. Right?

18 A. Right. But in the next line, to be fair, "All
19 occupational categories with increased mesothelioma risk
20 in our study involve exposure to asbestos." So they're
21 recognizing there's a broader group than what they
22 indicate.

23 Q. In Malker, they had mechanics and repairmen. I
24 think we've done this. In Malker they use the same
25 category of mechanics, and this is also a Scandinavian

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1 study. And what they report is we found a small
2 elevation in risk for males in the textile industry
3 consistent with reports of mesothelioma among asbestos
4 textile makers. But the excess was limited to several
5 high risk occupations, such as mechanics and repairmen
6 and the operators of stationary equipment and was not
7 found among the occupation textile workers. So when they
8 looked at that industry and they talked about it was the
9 mechanics, mechanics are people who worked in the textile
10 industry for that study; correct?

11 A. Well the definition would also be the same
12 Scandinavian definition. So it's not going to be unique
13 to motor vehicle mechanics.

14 Q. Okay. Hansen. In your report, you said you
15 didn't cite Hansen. Minor point, he did cite Hansen --
16 Garabrant did.

17 A. Right. And I think I clarified that in terms of
18 considering it.

19 Q. Hansen also knew, or there is a report that shows
20 cancer sites and whether there was an observed
21 statistically increased risk of disease. Correct?

22 A. Yes. That is placed on the chart.

23 Q. Okay. And I do have the Hansen study. May I
24 approach?

25 THE COURT: Yes.

Cross - Brodkin

1 THE WITNESS: Thank you.

2 BY MR. SCHACHTER:

3 Q. Sure. And this chart is Table IV in Hansen. And
4 you would agree with me that, although it says it reports
5 one case and an expected number of zero, the report
6 itself does not report a statistically increased rate of
7 mesothelioma with confidence intervals or list of
8 statistical significance. Correct?

9 A. Right. Because it's a rare disease. They didn't
10 have an underlying rate to compare it to.

11 Q. Right. And actually, this was a case where they
12 had nearly 200 or 300 person years of observation;
13 correct?

14 A. Well they had 21,000 mechanics and they had one
15 mesothelioma case, but the expected number was zero. I
16 mean you can't put a statistical test on infinity. One
17 over zero, an odd -- observed over expected is not
18 something you can put a statistical test on.

19 Q. Okay. But you would agree that there is a
20 background rate that's in the population of, like, one
21 per hundred thousand years?

22 A. One per million individuals per year, roughly.

23 Q. In somewhere between one and a million years, one
24 case is going to turn up and it might occur after,
25 100,000 years might occur after, 200,000 person years

Cross - Brodtkin

1 might occur after 800,000 person years. Right?

2 A. That's possible.

3 Q. Sure. And again, all we know about the person is
4 that he was employed with the title "auto mechanic" or
5 "mechanic," employed at a car-repair workshop. And what
6 Dr. Hansen said was asbestos exposure is known to occur
7 during the replacement of brake lines. And the single
8 case of pleural mesothelioma is an indication that this
9 exposure has not been negligible. But you said that on
10 the bases of this background, it's remarkable that the
11 auto mechanic's lung cancer mortality was not increased,
12 which is another thing we should look for. This is
13 basically why you cited Hansen, because of this
14 statement, right?

15 A. Well, and the data observed.

16 Q. Didn't reach statistical significance, and that
17 was an indication. That's what case reports do. They're
18 indications; correct?

19 A. I don't think one should get hung up on
20 statistical significance here. I think one really misses
21 the point. I mean one over zero is an infinite risk.
22 You can't do a statistical test; it wouldn't be
23 appropriate to do a test. That doesn't mean there isn't
24 a large association. Just because there's not a
25 statistical test doesn't mean we don't look at that.

Cross - Brodkin

1 Q. As opposed to that, we have the Rake and Peto
2 study. You cited a few cases for us during your Direct
3 Examination. And would it be fair for us to assume that
4 you used the same lens in examining those cases, the
5 background experience and methodology you used in
6 reporting on those cases, that you've used for these
7 other cases that we've talked about before?

8 A. My approach for considering the scientific medical
9 literature is to look at the methods. If they're robust
10 to assess the limitations and the results and to read the
11 conclusions in terms of whether there are limitations of
12 the study and, certainly, I've done that in this case.

13 Q. May I have a minute, Your Honor?

14 THE COURT: Yes, sir.

15 BY MR. SCHACHTER:

16 Q. Sir, time is precious for us and I think we're
17 going to rely on what our experts have said in their
18 reports about these other statements, primarily. But you
19 would agree, would you not, that just briefly, the Wang
20 article reports the same cases that were reported in Yano
21 in 2001?

22 A. Yes. It would be a follow-up of that.

23 Q. And those two cases were of both relatively short
24 latency, less than 20 years. Correct?

25 A. One of them was 13 years, or more than ten years,

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1 and the other one was more than 20 years. And Wang
2 reports an additional case.

3 Q. Okay. And those cases, Yano has published in the
4 peer-reviewed literature that he's actually -- there's
5 one fiber-burden study from that plant. Correct?

6 A. I believe there have been fiber-burden studies.

7 Q. And they found very, very high levels of the
8 amphibole, tremolite when they did the fiber-burden
9 studies. Correct?

10 A. That's not cited in these studies, but my
11 recollection is that some of those studies have been
12 done. Yano cites .001 percent tremolite in all of these
13 studies. So, I -- that's what's noted.

14 Q. One of the studies used in Wang that you cited was
15 peritoneal; correct?

16 A. That's true. Yes.

17 Q. And you have been the editor of a book. And the
18 book contains a chapter of mesothelioma, and that chapter
19 says that peritoneal mesothelioma is not caused by
20 chrysotile exposure. Correct?

21 A. Well, it indicates there is a paucity of evidence.
22 That textbook was in 2005. There's been a lot more
23 evidence that chrysotile is associated with peritoneal
24 mesothelioma since then, but it does discuss that there
25 is less evidence, which isn't surprising, because

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1 peritoneal mesothelioma is much rarer.

2 Q. Okay. And as to chrysotile, all that book says is
3 chrysotile may be caused by -- mesothelioma may be caused
4 by chrysotile exposure.

5 A. Well, no. The Dr. Rees' article or chapter is
6 very strong about all fiber types causing mesothelioma.
7 That discussion was very specific about the limited data
8 as to peritoneal mesothelioma, not pleural mesothelioma.

9 Q. Okay. I guess the chapter will speak for itself.
10 It's in the record?

11 A. Yes.

12 Q. Sir, even you would agree -- oh. Well, we've
13 discussed in our reports state of the art -- just a
14 second. Let me confer with my counsel.

15 THE COURT: All right.

16 BY MR. SCHACHTER:

17 Q. I'm sorry. I had forgotten that you -- I do need
18 to go through a state-of-the-art discussion. It probably
19 shouldn't take too long. You would agree that Irving
20 Selikoff was one of the leading experts on asbestos
21 disease in the 1960s and '70s; correct?

22 A. Yes.

23 Q. And he, of course, was very knowledgeable about
24 all of the -- about asbestos issues, and a hero in
25 asbestos research. Correct?

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1 A. Yes. I agree.

2 Q. And in his -- as an expert in the scientific
3 literature, you knew in 1970 that he wrote in Partnership
4 for Prevention that it is too easy to indulge in what
5 might be called the epidemiological theory of an
6 industrial hygiene history. You recall he wrote that;
7 right?

8 A. I'm certainly aware of his writings. I mean I
9 have a general recollection of that. I'd probably have
10 to see it to speak to the context, though.

11 Q. And he wrote then that it is fortunate that the
12 greatest part of the use of asbestos has been in products
13 in which asbestos is locked in. That is, it is bound by
14 a cement or plastic or other binder so that there is no
15 release -- certainly, no significant release of asbestos
16 fiber in either working areas or general air. That was
17 how he viewed encapsulated products in the 1970s;
18 correct?

19 A. Yes, and that's his emphasis on the form. That if
20 it's in a source, in an encapsulated form, it's not going
21 to be a risk unless there is an activity that disrupts
22 that.

23 Q. Now, in your report you have a state-of-the-art
24 chart where you list some of the same articles you talked
25 about on Direct Examination. Correct?

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1 A. Correct. Yes.

2 Q. And that chart ends before the era when
3 Dr. Selikoff was writing; is that correct?

4 A. It would have ended in 1965. Certainly,
5 Dr. Selikoff wrote about insulators in the early '60s
6 before the end of that, but his writings continued beyond
7 that.

8 Q. In 1978 he wrote a very important book called
9 Asbestos and Disease; correct?

10 A. Yes.

11 Q. And that's a seminal book in asbestos literature?

12 A. It's an important textbook.

13 Q. And he wrote, the time has come when a
14 comprehensive review of disease caused by exposure to
15 asbestos is not merely possible but badly needed. With
16 the number of articles on the subject in the world
17 literature at about 3,000 mark, it is manifestly absurd
18 to expect every person who has some responsibility for or
19 interest in disease prevention to be familiar with all
20 the aspects covered, or to be forced to resolve many of
21 the conflicting views presented. Correct?

22 A. Yes.

23 Q. So he understood there was vast literature and
24 there were conflicting data and somebody needed to
25 organize it. Is that fair?

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1 A. I think it is. Yeah.

2 Q. With that realization in mind, we decided to take
3 advantage of the wide range of specialists available at
4 the Mt. Sinai School of Medicine, not only in the
5 Environmental Science laboratory but also in the various
6 divisions of the school, and prepare an account that
7 would place the entire problem in perspective and help
8 the various specialists communicate and cooperate more
9 easily than they may have been able to do in the past.
10 We have sought, therefore, to digest the specialist
11 information applicable to the asbestos problem and to
12 present it in a manner that will be easily understood by
13 the person trained in some other field, while at the same
14 time indicating the current limitations as well as the
15 strengths of the information available.

16 That's what he wrote, right?

17 A. Yes.

18 Q. And then, of all the information on gaskets in the
19 book, he didn't include any of the cites that you've
20 given to us in Direct Examination. Correct?

21 A. Just for clarification, what do you mean by
22 "cites?"

23 Q. I'm sorry. He didn't choose to excerpt anything
24 about the dangers of gaskets in his book.

25 A. Not as a specific discussion. Again, as I

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1 indicated yesterday, it was a general discussion of
2 asbestos materials in terms of the activities that
3 disrupt and release fibers.

4 Q. And in fact, so that professionals who would be
5 working in situations where lives would depend on the
6 decisions, they could look at his book. And if they
7 looked for gasket information, they would find
8 high-temperature jointing and packing materials, asbestos
9 fiber, compressed asbestos fiber, no substitute
10 heat-resistant material; no health hazard in forms used
11 in shipyard application. That's what they would find; is
12 that correct?

13 A. Right. And that line which is from a table in the
14 chapter is discussed in the text, because in the page
15 before they discuss form versus activity. And the form
16 of the gasket, as it's used, was not considered a hazard
17 in its encapsulated form. But there's a discussion of
18 activities that if they release asbestos, they are a
19 hazard.

20 Q. And, sir, in your report, you -- I guess it was --
21 you took to task -- you said the defense experts are
22 citing Selikoff and Lee, and then you paraphrased it.
23 What you wrote in your report is, while Selikoff and Lee
24 note that high-temperature jointing and packing materials
25 result in no health hazard in the forms present in

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1 shipyard settings, they do emphasize the health hazards
2 associated with the manner in which such asbestos
3 materials are used. That's what you wrote. And when you
4 paraphrased, you paraphrased -- instead of the word
5 "used," you put the word "present." That's how you tried
6 to argue away Selikoff; correct?

7 A. Well, I disagree with that characterization. I
8 mean the chapter speaks for itself. But in the table
9 about gaskets, it speaks to form. In the prior page,
10 it's as I've indicated on my report: Form is
11 distinguished from the manner used. I think -- and
12 certainly I've indicated my assessment in my report, and
13 I think that's consistent with the chapter by Selikoff
14 and Li.

15 Q. So if our professionals, whose lives are depending
16 on the issue, looks at this chapter and is trying to
17 figure out what gaskets are saying, when Selikoff says,
18 "no health hazards in forms used in shipyard
19 applications" when it talks about use, do you really
20 think that Dr. Selikoff was putting out a word that would
21 be parsed between use and forms in the way you're saying?

22 A. I think absolutely. This table is -- it's a table
23 by Harrie's. It's not a table that Selikoff put
24 together. One would have to read the text and one would
25

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1 be very clear on that. I think it's very strongly stated
2 in the text. So it's speaking to the form, which is a
3 very important assessment that that can be safe. But it
4 speaks to the activity as well. I think that chapter
5 speaks for itself and very strongly.

6 Q. Okay. It does conclude -- Selikoff's statement
7 talks about the forms used; is that correct?

8 A. That's true. That's in the table.

9 Q. Thank you, sir.

10 A. Thank you.

11 THE COURT: All right. Redirect, Mr. Frost?

12 MR. FROST: Yes, Your Honor, just briefly.

13 **REDIRECT EXAMINATION**

14 BY MR. FROST:

15 Q. Dr. Brodkin, we're going to switch over.
16 Finishing up with that last line of questions that you
17 were asked about. If somebody went and looked in the
18 literature -- if somebody went and looked in the
19 literature, they would see in 1958 that the AIHA had
20 published that gaskets and packings were a source of
21 asbestos exposure and potential hazards.

22 A. That's true.

23 Q. Now you were asked some questions about -- I'm
24 going to misstate the name -- lung cancer and exposure to
25 diesel exhaust among bus garage workers by Gustavsson?

Redirect - Brodtkin

1 A. Gustavsson.

2 Q. Gustavsson? And you were asked about a chart.
3 Was this what you were trying to explain, where they
4 actually talked about what they found and not just some
5 chart?

6 A. Yes. This is the text. Because mesothelioma is a
7 rare disease, there often are not published rates. So
8 there's not a rate to compare it to. So it's discussed
9 in the text that they found these two cases at 2.2 to 3.9
10 fiber cc year ranges.

11 Q. And those fiber-year ranges, are those high
12 fiber-year ranges?

13 A. No. Two to three fiber cc years per cumulative
14 exposure is far below the miner and miller levels that
15 have been talked about earlier in the tens of fiber cc
16 year range. So these are much lower than that. They're
17 obviously far higher than ambient levels.

18 Q. And you were asked some questions about Rees and
19 your report, and you were shown a certain section but you
20 weren't shown this particular table. Is that what you
21 were quoting in your report?

22 A. Yes. If you look on the third row -- or on each
23 of the rows, they report the tonnage of the different
24 fiber types produced in South Africa, which produced all
25 the different fiber types. It wasn't until 1960 that

Redirect - Brodtkin

1 chrysotile even comes on the chart in terms of tonnage
2 produced. The other amphiboles had tonnage levels from
3 1940, and that's what I was talking about in terms of the
4 latency. If the industry only started in bulk in the
5 1960s, that's a much shorter latency to look at than the
6 amphiboles, and that introduces a potential bias into the
7 study.

8 Q. And in fact, what you were quoting to was the fact
9 that there's absolutely no tonnage listed until 1960 on
10 that chart.

11 A. Right. So it was light production that dated to
12 about the 1930s. It was not in the tonnage range, and
13 the numbers of workers were far fewer. Even in 1960, it
14 was only a small percentage of the South African mining
15 production of asbestos.

16 Q. And you were asked some questions about whether
17 there was -- you were asked questions about low-dose
18 chrysotile. We just dealt with the one article that
19 shows low-dose chrysotile causing mesothelioma. The
20 Loomis paper also deals with this issue; correct?

21 A. Yes. Certainly they looked at mesothelioma risk
22 based on years of employment and found a strong dose
23 response for the chrysotile used in the North Carolina
24 textile industry. And at one to less than five years
25 employment, there was a tenfold increased risk in

Redirect - Brodkin

1 mesothelioma. By the time you get up to 20 years in that
2 industry, you're at about a 40-fold increased risk for
3 mesothelioma.

4 Q. So I've just cut out the small section of the
5 chart. But what we're looking at there is between one to
6 five years. When we look at pleural cancer and
7 mesothelioma combined, they had an observed rate of two.
8 When you did the SMR, that was 10.52?

9 A. That's right. They're comparing the mortality in
10 that group compared to the reference population and its
11 tenfold increase.

12 Q. And that's just between one year and five years of
13 exposure. And as we continue over time, those numbers
14 get even bigger.

15 A. That's correct.

16 Q. Now, you were asked some questions about the 1986
17 risk assessment and whether that was still valid today
18 and whether there had been other studies and whether we
19 should just throw away this whole risk assessment. Do
20 you remember that?

21 A. I was asked questions about the '80s risk
22 assessment. Yes. I indicated I wasn't a regulatory
23 expert that was -- that specifically read the decision
24 making on that.

25 Q. Right. Only on the risk assessment -- just to be

Redirect - Brodkin

1 clear, you didn't go in and read the hundreds of pages on
2 the risk assessment itself, but you have read and
3 reviewed the OSHA regulations and other regulations
4 concerning asbestos?

5 A. Certainly, as an occupational medicine physician,
6 I'm familiar with that.

7 Q. In fact, in 2008 the Mine Safety and Health
8 Administration actually went back and looked at that 1986
9 OSHA risk assessment trying to do what we've seen since
10 then to see if that risk assessment's still valid.
11 Correct?

12 A. There have -- there has been significant updated
13 literature in that period of decades.

14 Q. And you were asked a question yesterday about
15 whether there might be some change in the literature as
16 we go moving forward. Would you agree with me,
17 Dr. Brodkin, that this issue of chrysotile asbestos
18 since, say, 2010 or maybe 2009 -- 2010, have we had newer
19 studies that have been published that show more and more
20 individuals that were predominantly exposed to chrysotile
21 getting mesothelioma?

22 A. Yes. I mean, certainly I spoke yesterday to the
23 fact that over time, you know, the major issue of whether
24 asbestos causes mesothelioma. Those big questions are
25 not likely to change, the answers to them, but there may

Redirect - Brodtkin

1 be refinement. And when you follow these cohorts, it
2 does refine information. For example, we talked about
3 the Chinese cohort Wang and Lin. In that period between
4 2001 and 2012, they found an additional case of
5 mesothelioma and were able to characterize the risk as a
6 33-fold increase. So that's the type of refinement of
7 knowledge I'm talking about.

8 Q. And in fact, in automobile mechanics, haven't
9 there been articles that have been published in just the
10 last few months that also indicate and add to that
11 knowledge to when there's an increased risk for people
12 like that?

13 A. Yes. Since my report, the Roelofs report came
14 out, the Massachusetts cancer registry, that found over a
15 twofold increased risk, statistically significant for
16 automotive workers. So there is refinement of knowledge
17 over time.

18 Q. In fact, going back to this 2008 Mine Safety
19 Health Administration. They went back and looked at all
20 those peer-review articles and tried to decide whether
21 there's still consistency with OSHA and ATSDR's
22 conclusions and risk assessment, and that's what we're
23 looking at right there. Correct?

24 A. That appears to be. Yes.

25 Q. Right. And it says the MSHA has determined that

Redirect - Brodtkin

1 OSHA's 1986 asbestos risk assessment -- that's what you
2 were being asked about on Cross; correct?

3 A. I was being asked about a 1980s risk assessment.

4 Q. Is applicable to asbestos exposures in mining.
5 And then the MSHA evaluated those studies that had been
6 done since 1986 focusing in on asbestos exposures of
7 miners. And what their conclusion was is that these
8 additional studies corroborate OSHA's conclusions in its
9 risk assessment. Correct?

10 A. Yes. I mean, there is certainly more data in a
11 wider range of the dose range. It's not limited to the
12 high exposure range.

13 Q. In fact, they have a whole table where they say,
14 these are the things we looked at. And it's -- a good
15 portion of that table are all chrysotile miners, other
16 people exposed to chrysotile asbestos. So what they've
17 done is they've taken the '86 risk assessment and updated
18 it looking at the studies that have happened since 1986.
19 And then they draw a conclusion and it says, the MSHA
20 concludes that exposure to asbestos as a known
21 human carcinogen results in similar disease end points,
22 regardless of the occupation that's been studied. You
23 would agree with that; correct?

24 A. Yes.

25 Q. Thank you, Dr. Brodtkin.

Recross - Brodtkin

1 A. Thank you.

2 MR. SCHACHTER: May I just follow up briefly?

3 THE COURT: All right.

4 **RECROSS EXAMINATION**

5 BY MR. SCHACHTER:

6 Q. Sir, as we discussed, the OSHA risk estimate had
7 lots of data on high exposure groups. And you would
8 agree that miners are high exposure groups; right?

9 A. In general, miners would be at the high end of
10 exposure.

11 Q. You agreed that the Loomis studies that we
12 discussed in your deposition is a study that, if we had
13 all the current information we now have, shouldn't have
14 been published in the form it had?

15 A. Actually, I've received more current information.

16 Q. Wait a minute. I'm going to have to object.

17 A. I'd like to complete my answer.

18 THE COURT: Well, answer it first and then you can
19 object.

20 BY MR. SCHACHTER:

21 Q. Okay.

22 A. I've received additional information, even since
23 my testimony, about that study that indicates chrysotile
24 is likely a more predominant exposure in terms of
25 depositions by the vice president of sales and

Recross - Brodtkin

1 distribution, Plummer, that there wasn't in fact
2 amphibole in asbestos felt produced at the Marshville
3 plant which, I believe, was one of the sites where a
4 number of the mesotheliomas occurred.

5 Q. It's correct, is it not, you haven't issued a
6 supplemental report, you haven't changed your deposition,
7 and these documents you're now talking about haven't been
8 produced? Is that correct?

9 A. I don't know if they've been produced to you but
10 they were given to me, and I wanted to be complete in my
11 answer.

12 MR. SCHACHTER: I move to strike the last answer,
13 Your Honor. This was an expert who gave a report, gave a
14 deposition, that said it was his opinion that --

15 THE COURT: I will deny the motion. I understand
16 your point.

17 BY MR. SCHACHTER:

18 Q. Sir, it is clear that the Loomis article is not --
19 the Loomis plant is a plant where -- we'll talk about
20 that with the other witnesses that are in our Rule 104
21 thing.

22 Let me go back to one issue on gaskets. Not
23 miners but gaskets. You talked about Selikoff, a study
24 including a line about substitutes. The introduction to
25 the chart, did it not, started with what might be

Recross - Brodtkin

1 regarded as the first principal of prevention. The
2 substitution of less hazardous or hazardous materials is
3 apt to encounter two major limitations in practice. The
4 user on the one hand will want assurance that substitute
5 is going to do the job. The health specialist, on the
6 other, will want to be certain that the substitute is
7 really free from significant hazard.

8 That was the context in which Dr. Selikoff was
9 saying there was no health hazards in the forms used and
10 so they didn't need to substitute with something that
11 would lack the hazard?

12 A. Certainly, Selikoff did discuss substitution.
13 That's one of the important principles we discussed. The
14 chapter with that table clearly discusses form and
15 activity. I think that's the context it was used in.

16 MR. SCHACHTER: Your Honor, I'm done but I would
17 like production of these documents that are now the
18 foundation of this alleged -- of this new opinion.

19 THE WITNESS: I have brought them today if the
20 Court needs them.

21 THE COURT: Okay. Well, I'll ask you to share
22 them.

23 MR. SCHACHTER: I pass the witness, Your Honor.

24 MR. FROST: I believe we already gave them to him
25 but I'll make sure.

1 I have no further questions, Your Honor.

2 THE COURT: Thank you, Dr. Brodkin. You're
3 excused.

4 THE WITNESS: Thank you, Your Honor. I appreciate
5 it.

6 THE COURT: Let's take a break. We'll come back
7 at 20 after.

8 (Off the record at 11:09 a.m.)

9 (On the record at 11:25 a.m.)

10 THE COURT: Have a seat.

11 MR. FINCH: Good morning, Your Honor. At this
12 time the Asbestos Claimants Commit Committee calls
13 Dr. Laura Welch.

14 THE COURT: Okay. While she's coming up.
15 Somebody asked about the ruling on the motion filed
16 yesterday by Newslane or something like that. I have
17 just entered an Order on that that denies that motion.
18 So that will be publicly available on the website as soon
19 as it gets uploaded, which should not be long. We'll
20 kind of keep the status quo on that issue until such time
21 as somebody tells us we've got to do it differently.
22 Okay?

23 MR. FINCH: Thank you, Your Honor. It's my
24 understanding that the proceedings this morning and with
25 all of the medical science witnesses have been wide open.

Direct - Welch

1 It's open court. It's only a limited portion --

2 THE COURT: It's been very limited, in my opinion.
3 I don't think anybody's missed much. All right.

4 MR. FINCH: Thank you. We'd call Dr. Welch, Your
5 Honor.

6 (Witness duly sworn at 11:26 a.m.)

7 **DIRECT EXAMINATION**

8 BY MR. FINCH:

9 Q. Good Morning, Dr. Welch. Could you tell the Court
10 your full name?

11 A. Laura Stewart Welch.

12 Q. And are you a licensed medical doctor?

13 A. Yes. I'm licensed in the state of Maryland.

14 Q. Where are you presently employed?

15 A. I work in Silver Spring, Maryland for an
16 organization called the Center for Construction Research
17 and Training. It's a research and training institute
18 that focuses on health and safety for construction
19 workers in the United States.

20 Q. Dr. Welch, have you published multiple papers in
21 the peer-reviewed literature concerning the epidemiology
22 and causation of asbestos-related diseases?

23 A. Yes, I have.

24 Q. I believe you'll find in front of you on the
25 witness box there a set of documents. Is ACC Exhibit

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1 3001 a copy of your curriculum vitae?

2 A. Yes, it is.

3 Q. Can you briefly run through your education and
4 training for the Court, Dr. Welch?

5 A. Yes. I graduated from Swarthmore College in 1974
6 and then finished my medical training at the state
7 university of New York Stony Brook Medical School in
8 1978. I did a three-year residency in internal medicine
9 at Montefiore Hospital in the Bronx in New York. And
10 then -- well, that's my training. And then go on to my
11 experience. As part of my residency in internal
12 medicine, I also did advanced graduate work at the
13 Columbia School of Public Health in epidemiology and
14 statistics.

15 Q. During the course of your career, did you have the
16 opportunity to work with Dr. Irving Selikoff?

17 A. I did. It was a pleasure actually. He in 19
18 maybe 84, he set up a screening for sheet metal, one of
19 17 different construction trades. He had as people have
20 talked about here before, he had studied insulators and
21 when he saw the amount of extensive disease --
22 asbestos-related disease amongst insulators, he felt it
23 was important to look at some of the other construction
24 trades. So he studied the sheet metal workers and
25 actually was -- told me personally he was surprised at

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1 the high prevalence of disease he saw among sheet metal
2 workers.

3 And then I worked with him to establish a national
4 screening program. He had screened in four different
5 cities but then working with the sheet metal workers
6 union and their contractors, we set up a national
7 screening program which I am still -- I still manage to
8 this date.

9 Q. And the diseases he was surprised about were the
10 prevalence of asbestos-related diseases in the sheet
11 metal workers?

12 A. Right. What we would find on x-rays: Asbestosis,
13 pleural plaques. It was more than he would have
14 predicted based on his understanding of their work.

15 Q. Okay. We'll get to the sheet metal workers
16 screening program and the papers you published about that
17 in a little bit more detail in a few minutes. But, are
18 you board-certified in any medical disciplines,
19 Dr. Welch?

20 A. Yes, both in internal medicine and in
21 occupational medicine.

22 Q. And we heard Dr. Brodkin give a description of
23 what the field of occupational medicine entails. Could
24 you just describe for the Court what training you've had
25 in epidemiology both as part of your obtaining a board

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1 certification in occupational medicine and subsequently?

2 A. Well, to take the boards in occupational medicine
3 you're required to have advanced training in epidemiology
4 and statistics. Which I mentioned -- just mentioned I
5 did at the Columbia School of Public Health. And then
6 once I started as a academic in the field of occupational
7 medicine, and still to this date have worked with very
8 experienced epidemiologists and gained additional
9 experience doing my own epidemiologic studies starting in
10 1982.

11 Q. Have you held any faculty positions in any medical
12 schools?

13 A. Yes.

14 Q. Could you explain those to the Court?

15 A. Yes. After I finished my residency at Montefiore,
16 I joined the faculty at Einstein School of Medicine in
17 the Bronx which was the major hospital and medical school
18 there, and then in 1982 moved up to the Yale University
19 School of Medicine, was on the faculty for three years.
20 Then I moved to Washington, D. C. and was on the faculty
21 of George Washington University for about 12 years where
22 I helped -- I started the program in occupational
23 medicine and helped develop that department within a new
24 psychological school of public health and was the chair
25 of the department at the time I left there. And went to

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1 work for the Washington Hospital Center which is a large
2 community hospital in Washington, D. C.

3 Q. What was your position in the section of
4 occupational and environmental medicine at the Washington
5 Hospital Center?

6 A. Well, the hospital center has about 5,000 -- or at
7 that time had about 5,000 employees and I was responsible
8 for employee health and then for workers' compensation
9 and short- and long-term disability that was kind of my
10 administrative work for the hospital. I also had a
11 clinical practice of occupational medicine. I practiced
12 internal medicine and I had a number of research grants
13 primarily related to health and safety among construction
14 workers.

15 Q. And you are now the medical director of something
16 called CPWR, the Center for Construction Research and
17 Training?

18 A. Right.

19 Q. Why did you leave Washington Hospital to become
20 medical director for CPWR, now the Center for
21 Construction, Research and Training?

22 A. The main reason which was my son was in middle
23 school and had a learning disability and I needed to be
24 home a little bit more. I sort of joke with my current
25 boss that I considered going to CPWR retiring because

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1 moving out of a busy hospital environment where I was
2 admitting patients to the hospital and that's really a
3 ten-hour-a-day job. So, I moved to CPWR. I didn't
4 expect to stay there as long as I have but it's been a
5 really great job and I think I'm accomplishing a lot for
6 public health.

7 Q. Has your position for the Maryland medical
8 director for CPWR given you the time to regularly review
9 and study the literature as it relates to disease issues
10 that you're interested in?

11 A. Yes. And allow me to really focus on construction
12 workers and work more on my sheet metal program that we
13 talked about and we'll probably talk about it, but I also
14 manage a large surveillance program for construction
15 workers that's funded by the Department of Energy. So
16 that's what I was saying I've been able to really focus
17 on very -- in great depth on the health and safety issues
18 around construction.

19 Q. Have you ever been a consultant to the National
20 Institutes of Health?

21 A. Yes. For about five years, as it says there from
22 '88 to '93 I was a consultant to the brain aging and
23 dementia section. A colleague and I were trying to
24 identify any characteristics of people who had early
25 onset dementia to see if it might be related to toxic

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1 substances.

2 Q. We will get to your peer-review publications in a
3 minute. Have you served as a peer-reviewer for any
4 journals in the medical and scientific arena?

5 A. Yes. And we do -- we list some of them there.
6 The top three American Journal of Industrial Medicine,
7 the Scandinavian Journal, and the Journal of Occupational
8 and Environmental Medicine are three of the main
9 publications in the area of occupational and
10 environmental health.

11 Q. And do those three journals literally have
12 hundreds of articles if not thousands relating to the
13 epidemiology or causation of asbestos-related disease?

14 A. Yes. Going back -- if we go back to, you know,
15 those journals have been -- well, I can't say how long,
16 but you know, they're at least being published for 50
17 years and almost every issue of, say, the Scandinavian
18 Journal has something related to asbestos or construction
19 or worker health.

20 Q. In addition to your work as a peer-reviewer, have
21 you personally published any articles in the
22 peer-reviewed medical or scientific journals?

23 A. Oh, yes. Yeah. They're reflected on my CV.

24 Q. Okay. Approximately how many articles have you
25 published in the peer-reviewed journals in your career?

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1 A. I think it's about 50. Actually, I haven't
2 counted recently but in the range of 50 peer-reviewed
3 articles.

4 Q. How many of those articles address asbestos and
5 disease issues specifically in the peer reviewed
6 literature?

7 A. I would -- again, I'd have to go back and count,
8 but I think maybe ten.

9 Q. Dr. Welch, have you designed and published papers
10 about analytical epidemiology studies focusing on
11 asbestos as a cause of mesothelioma and other
12 asbestos-related diseases?

13 A. Yes.

14 Q. And you mentioned a little while ago the sheet
15 metal workers. What is your role with the sheet metal
16 workers and could you tell the Court what kind of study
17 that is you designed and how -- and how you've been
18 publishing about it?

19 A. Sure. I mentioned we got it started with the help
20 of Dr. Selikoff in New York and currently the way it's
21 worked since the beginning is sheet metal workers that
22 are a member of the union are inviolate to have a medical
23 examination and my role is to set up and supervise those
24 medical examinations. And we like to go to each local in
25 the U.S. once every three years and offer an exam to

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1 sheet metal workers who have had at least 20 years as a
2 Journeyman because the initial aim of the program was to
3 identify the individuals who had asbestos-related disease
4 and provide them with whatever medical information we
5 could give them, smoking cessation information, and also
6 to better understand the nature and extent of asbestos
7 exposure in the industry.

8 And I would say that over the -- well, it's more
9 than 20 years we've had the program sheet metal workers
10 have really learned that they should not and don't have
11 to have -- touch anything that's asbestos-containing
12 there. Some of their exposure's asbestos-containing
13 materials in place and because of this program and
14 education that went along with it, we've really seen a
15 big change in the way that sheet metal workers handle the
16 asbestos in place.

17 Q. Okay. Is this -- this paper here, 1994 American
18 Journal of Industrial Medicine the national sheet metal
19 worker asbestos disease screening program radiologic
20 findings, Laurie Welch, David Michaels and Steven Zoloth.
21 Is that one of the first papers you've published in the
22 peer-review literature about the sheet metal workers?

23 A. Yeah. We published a preliminary one of these in
24 one of Dr. Selikoff's conferences, but this is an
25 extension of that and it was peer-reviewed in 1994.

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1 Q. Who was David Michaels?

2 A. He's currently the Assistant Secretary of Labor in
3 charge of the Occupational Safety and Health
4 Administration.

5 Q. So he's in charge of OSHA today?

6 A. Correct.

7 Q. And what are the kinds of asbestos exposures that
8 sheet metal workers have and how are those compared to
9 the types of exposures that insulators might have?

10 A. Well sheet metal workers didn't directly use
11 asbestos materials, except in some applications they
12 would use gaskets and packing. But their exposure --
13 they had exposure to insulation used by other trades.
14 Some of it was due to spray-on application of asbestos-
15 containing materials. They would -- if you picture a
16 steel building going up, the steel goes up, the asbestos
17 gets sprayed on, and other trades come in and work after
18 the insulators have done the spray-on work. And sheet
19 metal workers actually scrape asbestos off the beams to
20 be able to hang duct work and they're being exposed to
21 whatever asbestos is being re-entrained just by the
22 activities of being there. During that spray
23 application, only about half goes on. The steel half
24 goes on the floor and people are being exposed, so that's
25 one of the big potential exposures for sheet metal

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1 workers. We've been able to understand this mostly by
2 the histories we've taken from these. You know, I think
3 we now have examined 20 or 30,000 sheet metal workers on
4 multiple occasions, and they've given us a lot of detail
5 on the work they did and where they think asbestos
6 exposure may have occurred.

7 Q. And am I correct that while some forms of spray-on
8 insulation had amphiboles in it, a lot of the spray-on
9 insulation that was used in the United States was
10 primarily chrysotile?

11 A. That's my understanding. Yes.

12 Q. And W. R. Grace, for example, made a lot of
13 spray-on insulation that was used all over the United
14 States?

15 A. Right. I mean. They had a real -- they had a
16 majority of the market for some of their applications
17 that I'm aware of.

18 Q. You obviously worked in the W. R. Grace bankruptcy
19 case and learned what some of their products are made out
20 of?

21 A. Yes. That's correct. That's where my knowledge
22 of that comes from.

23 Q. Now this paper, what is this paper? This is a
24 paper published in 2009 relating to the sheet metal
25 workers again?

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1 A. Yes. So what -- the initial paper and the program
2 is really providing medical examinations in a systematic
3 way to sheet metal workers. But what John Dement and
4 then Elsa and Doug and I did together was to take the
5 information we had on the people we had examined and then
6 go to a national death index and see what they died from.
7 So it was a cohort study of sheet metal workers starting
8 with people who had participated in the exam, which, for
9 some things, it's very useful because it meant we had
10 pulmonary function and x-ray data for those individuals.

11 Q. And did this particular paper also find a
12 statistically significant excess mortality read for
13 mesothelioma?

14 A. Yes, it did.

15 Q. As you follow that cohort over time, you're seeing
16 mesotheliomas where you may not have seen any when you
17 first started back looking at it in 1994?

18 A. Actually, that's true. And we're in the process
19 of updating this mortality study one more time, and I'm
20 sure we will see more mesotheliomas. The people we had
21 examined in the beginning -- generally, when people came
22 into the program, they were in their mid-50s, and
23 mesothelioma is a disease, really, of people in their
24 70s. So we'll be accumulating more latency and more time
25 since the first exposure, and more age. You know, it's

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1 about -- the average mesothelioma diagnosis now is about
2 40 years since they were first exposed. So based on our
3 -- what we know about these workers, we will definitely
4 see more mesotheliomas.

5 Q. And what is the size of the population that you're
6 following forward in time for the sheet metal workers?

7 A. Well, we're always adding to it, but I think we
8 currently have 27,000 individuals enrolled in -- have
9 been enrolled in the sheet metal program. A number of
10 those have died and we have multiple exams on some of
11 those individuals. So we have more than -- we probably
12 have 40,000 exams but I think it's 27,000 people.

13 Q. And how the -- do the size of those studies
14 compare to other epidemiological studies of
15 asbestos-exposed workers in terms of the number of people
16 in the study population?

17 A. For this kind of study where you're collecting
18 clinical data on a population over time, it's the
19 biggest. I mean, Selikoff's study had exams on 1,700
20 people.

21 Q. 17,000 people?

22 A. 1,700.

23 Q. 1,700 out of the 17,000 he followed, he had exams
24 on 1,700?

25 A. Right. He had x-rays and PFTS on about 1,726, if

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1 I remember the number right.

2 Q. Okay. So, this -- so the sheet metal worker --

3 A. This is bigger.

4 Q. And then in addition to your epidemiological study
5 of the sheet metal workers, have you also done a
6 screening and design of a study for other types of
7 asbestos -- other asbestos-exposed workers?

8 A. Yes. We have a similar program examining
9 construction workers who worked building the atomic
10 weapons complex for the Department of Energy. So these
11 are -- there are 27 different facilities around the
12 country and about 15 years ago Department of Energy
13 decided they would offer medical examinations to all the
14 workers who had been involved in that and they basically
15 are Cold War -- well, World War II through Cold War
16 development of atomic weapons. So -- and I also work on
17 that with John Dement and we have -- may not be quite as
18 big as sheet metal, but it's in the 20,000 range of
19 construction workers across all trades that we've
20 examined and enrolled in an ongoing epidemiologic study.

21 Q. Now, this is an article entitled asbestos and
22 peritoneal mesothelioma among college-educated men, and
23 the -- you are the lead author. What is this paper
24 about?

25 A. Well, this was a case-controlled study of

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1 peritoneal mesothelioma and the last author there, Paul
2 Sugarbaker is one of the U. S. -- he's -- he's a surgeon
3 and he developed and has continued to treat people with
4 peritoneal mesothelioma using a chemotherapy that they
5 put into the abdomen and he's really one of the world's
6 foremost treaters of this kind of mesothelioma, which
7 meant he had a rather large case series. So we went back
8 and interviewed the cases or their next of kin about
9 their work and did the same with the control group out of
10 patients at the hospital center.

11 Q. And you found a statistically significant excess
12 risk of mesothelioma among college-educated men?

13 A. We found an excess risk of asbestos exposure among
14 the peritoneal mesothelioma cases and most of the people
15 in that case-control study were college educated.
16 Meaning generally not a long history of work in blue
17 collar -- in blue collar occupations. I think that was
18 just the nature of the people who would find their way
19 all the way from D. C. to California or wherever they
20 came from to get that specialized treatment. So we were
21 looking at, you know, what in the paper I discuss as a --
22 overall the population, their exposure to asbestos was
23 lower than one would generally see if you were studying
24 insulators, for example.

25 Q. And was this paper in fact cited by the

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1 international agency on cancer research in its 2012
2 monograph on asbestos?

3 A. Yes, it was.

4 Q. Now, what is it about college-educated men and
5 their asbestos exposure that makes them important in
6 trying to assess low-dose chrysotile issues?

7 A. Well, for peritoneal mesothelioma in particular,
8 there had to be a hypothesis that it took higher
9 exposures to asbestos to get peritoneal versus pleural
10 mesothelioma. That was based on some study out of the
11 U.K. But here we were demonstrating that that wasn't the
12 case. That the exposures that these individuals had that
13 was related to their mesothelioma was not industrial, or
14 factory level. It was a range of occupations in there.
15 But generally, as I said before, most of them were
16 college educated and had not been in blue collar jobs for
17 their whole career.

18 Q. And is it a fact that some of the cases of
19 mesothelioma in this case-controlled study were people
20 who did essentially just brake work?

21 A. That's -- there were some brake mechanics in
22 there, yes.

23 Q. And even -- you're probably going to get some
24 questions about this from Mr. Schachter. This is an
25 article that was published in the peer-reviewed

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1 literature entitled Asbestos Exposure Causes
2 Mesothelioma, But Not This Asbestos Exposure, an amicus
3 brief to the Michigan Supreme Court. Who wrote that
4 article?

5 A. I did.

6 Q. There have been some suggestions that lawyers
7 wrote the article. Did any lawyers write that article,
8 Dr. Welch?

9 A. No, I wrote that article.

10 Q. And it was ultimately published in a peer-reviewed
11 medical journal?

12 A. Correct.

13 Q. Were you the only person who signed that article?

14 A. No. There are 52 of us that were -- that are
15 signers. I wrote it and I sent it out to my colleagues
16 and some of them forwarded it on to other people and 51
17 other people said they wanted to sign on to it.

18 Q. And am I correct that many of the people who
19 signed this article and agreed with the statements in
20 this article were epidemiologists?

21 A. Yes.

22 Q. We'll get to that a little bit later. This is a
23 paper published in the American Journal of Industrial
24 Medicine in 2009 entitled Developments in Asbestos Cancer
25 Risk Assessment. Is that an article that you -- you were

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1 an author of?

2 A. Yes.

3 Q. And what is this paper about, Dr. Welch?

4 A. Well, this -- as it says at the top, it's a
5 historical perspective. And what we did was review the
6 efforts that had been made in doing risk assessment for
7 asbestos and particularly trying to parse out, if they
8 could in these risk assessments, relative potency for the
9 different fiber types.

10 Q. Okay. And am I correct this article was published
11 about a year after the Environmental Protection Agency
12 convened a science advisory board of the independent
13 experts to look at this fiber potency question? Is that
14 right?

15 A. That's correct. And it was actually that hearing
16 that -- where Mike and I decided that it would be useful
17 to do an outline of what the efforts that had been made
18 over the years and what the limitations are in doing some
19 fiber-specific potency estimates because I had testified
20 at the EPA senate's science advisory board. The science
21 advisory board at that point decided it wasn't -- the
22 available data didn't lend itself to doing a
23 fiber-specific potency.

24 They couldn't -- the data didn't allow them to say
25 that chrysotile is more or less potent than amosite. EPA

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1 had wanted to do that if they could and they hired a
2 contractor to develop a model but the advisory board
3 said, no, you can't use that model. It's really not
4 solid. The data -- there's many limitations in the data.
5 So we decided to kind of lay out what the limitations are
6 in the data so that other people interested in the topic
7 could understand it in more detail.

8 Q. Am I correct that when the science advisory board
9 -- the science advisory board wasn't just a bunch of guys
10 that the EPA rounded up off the street. Is that correct?

11 A. They put together a committee that, yes, took them
12 a while to get the science advisory board together
13 because this is clearly a hot topic. A lot of interest
14 in it from, you know, scientific and commercial business
15 industry, government. So they wanted to get people who
16 were well -- very well-respected and wouldn't be
17 considered to have a preconceived notion going into the
18 advisory board meeting about which way to go.

19 Q. And it included people like Julian Peto? We've
20 seen his papers displayed in the courtroom. He was on
21 the science advisory board?

22 A. Correct.

23 Q. Leslie Stayner, who was a part of IARC working
24 group on asbestos was part of the science advisory board?

25 A. Yes.

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1 Q. And there were people from many different
2 disciplines; am I correct? It wasn't just
3 epidemiologists. There were industrial hygienists and
4 toxicologists and fiber material specialists and
5 statisticians?

6 A. Correct.

7 Q. Am I correct what they ultimately concluded was
8 that there just wasn't good enough exposure data in the
9 different types of single-fiber exposure cohorts to do a
10 quantitative evaluation of what fiber types might be more
11 potent than other fiber types on a fiber-per-fiber basis?
12 Is that what they basically concluded?

13 A. Right. Because although we have a lot of --
14 there's a lot of epidemiology on asbestos disease,
15 there's not as much industrial hygiene. There's not as
16 much fiber measurements during the course of those
17 individual's work and if you want to do fiber-specific
18 potency, you really need the fiber levels.

19 As you pointed out, you would need fiber levels on
20 groups of workers exposed to single fibers. Most of the
21 exposures that individual -- the groups of workers have
22 had has been mixed. So once you start to stay well, we
23 want industrial hygiene data and we want it to be single
24 fiber, you're left with very few populations and then the
25 uncertainty is very big. I mean if you take away one

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1 mesothelioma, or add another one, it could have changed
2 the potency estimates by orders of magnitude so EPA said
3 they weren't comfortable using that to make decisions
4 about risk.

5 Q. And am I correct that when the science advisory
6 board was doing this project in the summer of 2008, they
7 had pretty much every epidemiology study that existed up
8 to that point in time where you could glean at least some
9 information about fiber type? They were looking at that?

10 A. Yes.

11 Q. Now, in addition to your publishing in the
12 peer-reviewed literature, do you regularly review the
13 literature as it relates to asbestos disease causation?

14 A. Yes, I do.

15 Q. Can you explain to the Court the service that you
16 have and the process that you have allows you to keep --
17 to keep up-to-date on the literature?

18 A. Yeah. Well I do it in several different ways.
19 There is a nice service -- actually I forget the name of
20 it, but it's -- it will send me every month papers that
21 are in the same area as papers I've published. So, you
22 know, I ask them to send me anything that's related to my
23 sheet metal studies, my Department of Energy studies
24 which have to do with asbestos?

25 A. Plus, I have a -- there's a place where all my

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1 publications are listed and it sends me an e-mail if
2 someone cites it or if somebody looks at it or if
3 somebody posts something that's related. Those are two
4 different services. Plus I will regularly do a pub med
5 search to look at specific questions because I'm
6 publishing in this area. So as I said, Dr. Dement and I
7 are redoing our mortality analysis of sheet metal workers
8 so I'm looking to see if there's other epidemiologic
9 studies that are relevant that will go in the background
10 of our papers.

11 Q. You mentioned something called "pub med." What is
12 pub med?

13 A. It's a service that's run by the national library
14 of medicine which is part of the National Institute of
15 Health. It's publicly available. It's free. And it
16 will search the medical literature for you. It really
17 focuses on medical. There's other NLM databases that you
18 could use if you're more engineering-oriented, but anyone
19 can use it. It's free. You just go in, you put in
20 asbestos, you get I don't know 45,000 citations. I don't
21 know how many.

22 Q. And if you put in chrysotile, you get 2,000
23 articles and if you put in chrysotile and mesothelioma
24 you get several hundred articles?

25 A. Probably. Probably, yeah, those are the right

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1 numbers.

2 Q. And pub med would include not just medical
3 articles although it's principally about medical and
4 epidemiology articles, but it also would include some
5 articles which would -- the focus of which would be
6 industrial hygiene; is that correct?

7 A. Yeah. I think it would capture a lot of those.
8 It chooses journals to include in pub med. And the
9 leading industrial hygiene journals have been included
10 probably for 20 years in pub med.

11 Q. How many articles do you believe you have read and
12 reviewed in your career that deal with the subject of
13 asbestos disease causation?

14 A. Well, a lot. I don't know. Definitely hundreds.
15 It's hard to know. I mean, I would say in any month I
16 read ten new ones that are related to asbestos in some
17 way or another.

18 Q. Do you remember them all with perfect recall?

19 A. The older I get, the less I remember including
20 what I read yesterday. But you know, I mean, I will
21 remember -- generally remember if I've read a paper and
22 what was salient about it to a -- to me, but I would have
23 to look at it again to answer detailed questions.

24 Q. All right. I want to talk with you but you still
25 see patients currently, Dr. Welch?

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1 A. I do but not occupational medicine. I do as a
2 volunteer. I see patients in the county I live in in
3 Maryland who don't have insurance.

4 Q. And let me talk about your experience in seeing
5 patients with asbestos-related disease where you would
6 meet a patient and take an occupational history and
7 either treat them or refer them for treatment. When did
8 you first get involved in seeing patients with
9 asbestos-related disease?

10 A. During my residency. Probably in 1980, 1981.

11 Q. And this says up here you've diagnosed and treated
12 more than 1,000 patients with asbestos-related disease in
13 your clinical practice. This was back when you were in
14 Connecticut; right?

15 A. Well that's going over about a 20-something year
16 period, maybe 23-year period between when I finished my
17 residency and when I came to my current job where I
18 stopped having a clinical practice of occupational
19 medicine.

20 Q. Okay. And the vast majority of those people were
21 people with asbestosis or pleural disease?

22 A. Yes.

23 Q. And have you ever been asked to testify before the
24 United States Congress or any of its committees about
25 asbestos disease causation and projections of future

Direct - Welch

1 asbestos-related disease?

2 A. Yes. I actually testified twice and it was part
3 of a process where the Senate was trying to develop a
4 privately funded but publicly administered trust fund
5 that would handle all asbestos claims. So I testified
6 about, as you just said, about medical causation relating
7 to establishing medical criteria that would be part of
8 that trust fund.

9 Q. How often have you testified in asbestos personal
10 injury trials in the past four or five years?

11 A. I think in the past four years I have testified in
12 three trials. And I have another one -- I have one
13 scheduled this year. So it will be by the end of 2013,
14 it will be just about one a year.

15 Q. Okay. But you have also testified in
16 asbestos-related bankruptcy proceedings over the past ten
17 years; is that correct?

18 A. Yes, I have.

19 Q. And have you been recognized by federal and state
20 court judges as an expert in internal medicine,
21 occupational medicine, the epidemiology of asbestos
22 diseases and the causation of mesothelioma?

23 A. Yes, I believe so.

24 Q. Was one of the judges who recognized you as an
25 expert in the -- in those categories Judge Eduardo

Direct - Welch

1 Robreno, who now oversees the entire Federal Asbestos MDL
2 docket?

3 A. Yes. That was during the Armstrong bankruptcy.

4 Q. And you're charging for your time here today?

5 A. Yes.

6 Q. What is your billing rate?

7 A. \$450 an hour.

8 Q. And how much time have you spent and approximately
9 how much have you billed the Garlock bankruptcy estate
10 for your work in this case?

11 A. Well, up to the time of my deposition I had billed
12 a little under \$30,000 and I think there will probably be
13 another maybe ten, \$15,000 between being here and the
14 deposition.

15 Q. And how much -- as by way of comparison, for all
16 of your work in asbestos litigation as it relates to
17 either individual cases or the asbestos bankruptcies, how
18 does the time commitment to that compare to how much time
19 you spend volunteering to treat patients with whatever
20 diseases who don't have insurance?

21 A. Well, I expend now probably it's maybe almost a
22 day and a half on that working with mobile medical care
23 every week and so it's three times as much, twice as much
24 as I spend doing litigation-related things.

25 Q. And have you prepared both an initial report and a

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1 rebuttal report in connection with your work in this
2 bankruptcy case, an initial report is in front of you
3 which is a series of documents entitled ACC-3002 and the
4 rebuttal report is ACC-3003?

5 A. Yes.

6 Q. Is that right, Dr. Welch?

7 A. That's correct.

8 MR. FINCH: And at this time, Your Honor, we would
9 ask the Court recognize Dr. Welch as an expert in
10 internal medicine, occupational medicine, the
11 epidemiology of asbestos-related diseases and the
12 causation of mesothelioma.

13 MR. SCHACHTER: No objection.

14 THE COURT: We will admit her as such.

15 BY MR. FINCH:

16 Q. Dr. Welch, can you agree in your testimony today
17 to keep the opinions you're going to express to a
18 reasonable degree of medical and scientific probability?

19 A. Yes.

20 Q. We are here in a courtroom. I want to talk about
21 outside of the courtroom in the real world. This is the
22 real world but this is a very narrow subset of the real
23 world. What time and materials the -- what are the types
24 of -- what are the materials that doctors consider and
25 rely on in making causation determinations in the context

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1 of disease causation?

2 A. Well, individual experience and knowledge
3 certainly, which is made up of over, you know, treating
4 patients but also reading literature. The medical and
5 scientific literature that relates to that question,
6 which would include epidemiology but also toxicology
7 studies. Certainly expert reviews and say, for example,
8 you mentioned the International Agency for Research on
9 Cancer. They do systematic expert reviews of questions
10 like asbestos causation. And then similar ones from
11 public health agencies are also very important. So it's
12 -- so my own experience, the knowledge that's given to me
13 by the expert community around me, and published
14 literature. There are probably some others but I think
15 we've got that.

16 Q. Your Honor, can I have just a second with my --

17 A. Sure.

18 Q. -- trial technology consultant? Could you back up
19 one slide, Cameron? Back up one more slide.

20 Is that a list of the things that doctors consider
21 and rely on in assessing disease causation, Dr. Welch?

22 A. Yes. Yeah.

23 Q. So Medical Journal of Literature would include not
24 just epidemiology but also case series and case reports
25 and review articles to use to inform your decision?

Direct - Welch

1 A. I think case series and case reports are a part of
2 epidemiology but certainly all those together, yes.

3 Q. Weill and Dr. Sporn said that chrysotile fibers
4 from finished products can't cause asbestosis and pleural
5 disease. Is that right?

6 A. No.

7 Q. Do you have an opinion to a reasonable degree of
8 medical and scientific certainty where chrysotile fibers
9 cause asbestosis?

10 A. I think that is so well known as to not really --
11 we don't really -- chrysotile causes asbestosis.

12 Q. Did chrysotile fibers -- I'm not talking about
13 mine dust in Quebec. I'm talking about chrysotile fibers
14 that are released from finished products, can they cause
15 asbestos-related lung cancer?

16 A. Yes.

17 Q. Can the chrysotile fibers get to the pleura and
18 cause either pleura plaques or pleura thickenings?

19 A. Yes.

20 Q. Can chrysotile fibers damage human chromosomes in
21 human beings?

22 A. Yeah, I think Dr. Brody talked about that.

23 Q. And can chrysotile fibers cause asbestos-related
24 pleural plaques, which is injury to the lining around the
25 lung?

Direct - Welch

1 A. Yes.

2 Q. Why is it important in assessing chrysotile's
3 ability to cause mesothelioma to consider whether it
4 causes asbestosis and pleural disease?

5 A. Well, chrysotile is one of the different classes
6 of asbestos -- commercially available asbestos. These
7 diseases are caused by the other, caused by amosite,
8 caused by crocidolite. And it's essentially telling us
9 chrysotile does the same thing in the lung. It causes
10 the same inflammation, ends up with the same scarring
11 that it can get to the pleura and cause pleural plaques
12 and the pleura is -- I know you discussed -- is where
13 mesothelioma occurs. So that we would expect the
14 chrysotile would be getting to the pleura if it's causing
15 the disease and also that chrysotile is a carcinogen.
16 And that last part, the chrysotile fibers can damaged
17 chromosomes. I mean, that's a -- that's well accepted.
18 I think that the World Health Organization called
19 chrysotile a carcinogen in the 1970s.

20 Q. I don't know if it was -- there's been any
21 testimony about the difference between a cancer initiator
22 and a cancer promoter, but is chrysotile asbestos both an
23 initiator and a promoter?

24 A. Yes.

25 Q. Of cancer?

Direct - Welch

1 A. Yes. So it's called they call it being a complete
2 carcinogen when it does both parts.

3 Q. And just explain to the Court what it means if
4 something is a complete carcinogen.

5 A. Well, cancer -- we're always learning more about
6 what causes cancer but we do know that for a cell to
7 develop -- for an individual to develop a cancer, there
8 have to be many things that happen to a cell. There has
9 to be a genetic damage that is eventually going to let
10 that cell grow uncontrolled which is what a cancer is.

11 A. But just one damage to one part of the DNA is
12 probably not sufficient. There have to be multiple
13 damages and there also have to be some -- there's things
14 called tumor promoter cells and tumor suppressor cells
15 so if a carcinogen also affects the tumor suppressor
16 cells by inhibiting that cell function then the cancer
17 can take off. So the chrysotile we know can damage
18 chromosomes, but it also can cause a chronic inflammation
19 in the lung which leads to the asbestosis and that
20 chronic inflammatory change changes what we call the
21 milieu, the activity of a whole bunch of different cells
22 in the lung environment. Which we think is the promoting
23 factor for lung cancer for a mesothelioma.

24 Q. Okay. Does this slide have some of -- just some
25 of the studies or some of the things that you were

Direct - Welch

1 relying upon for the proposition that chrysotile causes
2 asbestosis and pleural disease?

3 A. Yes.

4 Q. And that would be asbestosis found in
5 manufacturing facilities where chrysotile products are
6 made?

7 A. Yes. Like, for example, the Loomis and Dement
8 studies. There have been -- asbestosis is well
9 documented to occur in the chrysotile textile factories
10 in the Carolinas.

11 Q. Does asbestosis typically occur outside but
12 there's no asbestos exposure?

13 A. By definition, asbestosis is caused by asbestos.
14 But pulmonary fibrosis, in the setting of asbestos
15 exposure, is asbestosis, which is what the American
16 Thoracic Society, that tells us, you know, if you see
17 scarring in somebody's lung on an x-ray, how do you
18 determine that it's related to asbestos? And then you
19 call it asbestosis. So in, you know, the people who
20 worked in those chrysotile plants when they died, the
21 doctor put on their death certificate they died of
22 asbestosis.

23 Q. And am I correct that there are studies of both
24 brake workers and studies of joint compound workers which
25 are people that work with finished products that show

Direct - Welch

1 significant levels of asbestosis in those groups?

2 A. On pleural plaque and interstitial fibrosis,
3 depending on the population you're looking at.

4 Q. We'll get, in a minute, to the American Thoracic
5 Society's statement on the nonrelated nonmalignant
6 diseases. Are you familiar with the work of the people
7 at Mt. Sinai when they looked at a group of drywall
8 construction workers?

9 A. Yes. They did a -- we call it a cross-sectional
10 examination where they did chest x-rays and interviews on
11 drywall workers and found a significant amount of
12 scarring on the lung that was attributable to asbestos
13 exposure from the joint compound.

14 Q. And joint compound is chrysotile-containing
15 finished product; correct?

16 A. Correct.

17 Q. And what they found in this paper published in the
18 peer-reviewed literature in 1979 called Drywall
19 Construction and Asbestos Exposure. What did they find,
20 Dr. Welch?

21 A. You have it there. The prevalence of asbestosis
22 was similar to that found among asbestos insulation
23 workers. Because what they found was about almost 50
24 percent had a radiologic change, suggestive or consistent
25 with pulmonary asbestosis.

Direct - Welch

1 Q. So the insulators -- there was 50 percent in these
2 studies, referring to insulation studies, 50 percent had
3 either asbestosis or pleural disease. Whereas, the
4 drywall workers, the guys working with the chrysotile
5 joint compound, it was about 40 percent?

6 A. Right.

7 Q. That is an astronomically elevated rate of a group
8 of asbestos in a group of people not exposed to asbestos;
9 right?

10 A. Right. You wouldn't see that. If you took an
11 x-ray of workers not exposed to dust -- not talking about
12 people admitted to the hospital -- you wouldn't find
13 scarring in their lung. I mean, healthy people don't
14 have scarring in their lung.

15 Q. Okay. Now you mentioned the American Thoracic
16 Society's statement. Are you referring to the American
17 Thoracic Society consensus statement on the diagnosis and
18 initial management of nonmalignant diseases related to
19 asbestos?

20 A. Yes.

21 Q. One of the members of the panel that created that
22 document was Dr. Brodtkin who was testifying yesterday and
23 today?

24 A. Yes, I know he was.

25 Q. And it wasn't just him on that pen panel, there

Direct - Welch

1 was like 10 or 11 people who were experts in nonmalignant
2 diseases?

3 A. Yes.

4 Q. What did the American Thoracic Society -- that's
5 the society for pulmonologists and chest doctors?

6 A. Yes.

7 Q. Doctors like Dr. Weill, for example?

8 A. Correct.

9 Q. And did the American Thoracic Society conclude
10 about whether chrysotile asbestos causes nonmalignant
11 asbestos disease?

12 A. That all forms of asbestos can cause the
13 nonmalignant diseases, which is what nonmalignant we're
14 talking about, asbestosis and pleural plaque.

15 Q. Is that, to your knowledge, always been the
16 position of the American Thoracic Society that chrysotile
17 asbestos and amosite asbestos and crocidolite asbestos,
18 all three, could cause asbestosis?

19 A. Yes, I think so. In that -- they had a 1986
20 document prior to this one. And if I remember correctly,
21 that was also in that document.

22 Q. And in the 1986 document, they didn't say that
23 chrysotile asbestos doesn't cause asbestosis; did they?

24 A. Right, that it did not say that.

25 Q. I mean it treated chrysotile as the other kinds as

Direct - Welch

1 a way to get asbestosis. Right?

2 A. Correct.

3 Q. And in the 1986 document was there a Weill that
4 signed off as one of the members on that 1986 document?

5 A. Yes. Hans Weill.

6 Q. The father of David Weill?

7 A. David's dad. Yeah. Yes.

8 Q. Okay. There's been a lot of testimony that
9 various scientific and research agencies have examined
10 the question and concluded that chrysotile causes
11 mesothelioma. Do you agree with that, Dr. Welch?

12 A. Yes.

13 Q. Okay. And why is it that you, as a medical
14 doctor, consider the views of something like the
15 International Agency for Research on Cancer or the United
16 States surgeon general or the national toxicology program
17 in forming your views about whether chrysotile causes
18 mesothelioma?

19 A. Well, let's say -- let's take IARC. They put
20 together a panel of people who know more than anybody in
21 the world about carcinogens and then they focus on the
22 particular ones that their carcinogens they're interested
23 in. In this case it was asbestos and they spend a long
24 time reviewing all the literature and synthesizing it.
25 So it's, you know, for someone like me, I couldn't do

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1 that all on my own.

2 I don't think any one person on that committee
3 could do that all on their own. It's so much work to
4 synthesize all that information. And that's why we have
5 an organization like IARC is to -- their job -- they're
6 part of the World Health Organization, they're not a
7 regulatory agency. Their job is to tell the rest of us
8 what are known human carcinogens so that the rest of us
9 can try to keep people from being exposed to those
10 things.

11 Q. And IARC's monograph -- most recent monograph on
12 asbestos was published in 2012. Am I correct that one of
13 the very first things that IARC studied after it was
14 formed 40 years ago was asbestos?

15 A. That sounds right.

16 Q. And their earlier monographs have also concluded
17 that chrysotile asbestos is a cause of mesothelioma; is
18 that correct?

19 A. That's correct.

20 Q. Have you looked at not just a scientific agency
21 pronouncement but you've also looked at the underlying
22 studies, many of them that they were relying on in making
23 their conclusions as part of your work in this field over
24 the past 25 years?

25 A. Yes. In particular, the human studies and the

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1 epidemiology. They synthesize a tremendous volume of
2 literature and experimental studies and animal studies
3 you know in vitro and in vivo. I would rely on them and
4 other reviews for those. I haven't read those in depth
5 but the human studies, yes, I think I've read them all.

6 Q. Okay. Let's talk about chrysotile cohorts. Would
7 you agree with me that outside of the courtroom in the
8 world, scientific literature -- the world scientific
9 literature treats a -- this type of thing as a chrysotile
10 cohort where you have a predominantly chrysotile exposure
11 but there may be a tiny amount of amphibole that is
12 considered to be a chrysotile cohort?

13 A. Correct. And that -- and we can use cohorts like
14 that to tell us about the health effects of chrysotile.

15 Q. Okay. And this was a paper that you cited and
16 relied upon in your expert report?

17 A. Yes.

18 Q. Entitled: Estimating the Asbestos-Related Lung
19 Cancer Burden from mesothelioma Mortality. Is that
20 right?

21 A. Yes.

22 Q. And what they did, they have collected in this
23 paper all of the cohorts that they could find, not just
24 for chrysotile but they had crocidolite cohorts, amosite
25 cohorts, and then the analytical epidemiologic studies

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1 they could find for what's called mixed fiber exposure.

2 Is that right?

3 A. That's correct.

4 MR. FINCH: May I approach the witness, Your
5 Honor?

6 THE COURT: Yes.

7 BY MR. FINCH:

8 Q. I have put that paper in front of you just because
9 I'm going to have some questions about it. But how many
10 crocidolite cohorts are there?

11 A. Six.

12 Q. And how many chrysotile and crocidolite?

13 A. It's seven or eight.

14 Q. And then for chrysotile there's about 15?

15 A. Yes. And those are the ones you have up here from
16 15 to 30, that would be 16.

17 Q. And then amosite it's four?

18 A. Correct.

19 Q. And then a couple of anthophyllite, and then about
20 -- close to 30 that are called mixed or unspecified
21 asbestos types?

22 A. That's correct.

23 Q. And if you added up all the people in all those
24 cohorts, am I correct that would only be a tiny fraction
25 of the people who were ever exposed to asbestos in the

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1 world?

2 A. Oh, absolutely. I mean these are, you know,
3 assembled cohorts for a study of epidemiology, but yes,
4 it's a very -- it's a tiny fraction.

5 Q. Okay. And what I have on the screen here are what
6 they call chrysotile pure or predominantly; correct?

7 A. Correct.

8 Q. And you're aware that since your report was
9 written, there's been some back and forth letters to the
10 editor in the same British Journal of Cancer about their
11 uses of this. Correct?

12 A. Correct.

13 Q. And what did the authors of the 2012 paper say
14 about whether their results show that chrysotile --
15 that's a chrysotile can cause mesothelioma? What did
16 they say?

17 A. I mean they're very clear they say their article
18 clearly shows there's an excess of mesothelioma and lung
19 cancer associated with chrysotile. And which is
20 consistent with the IARC classification of chrysotile as
21 a group one carcinogen. Group one is the most
22 established carcinogen known to be carcinogenic to
23 humans.

24 Q. Okay. Then they write, at no point do we conclude
25 that mesothelioma occurring in chrysotile-exposed cohorts

Direct - Welch

1 is due to other asbestos types. Rather, we considered it
2 valid to discuss that when multiple carcinogenic fibers
3 are present, the relevant contribution of each is more
4 difficult to disentangle. That's what they wrote; right?

5 A. Yes.

6 Q. And you generally agree with that?

7 A. Yes.

8 MR. SCHACHTER: Can we drop some completeness?

9 BY MR. FINCH:

10 Q. Sure. They go on to say, this -- particularly the
11 case for chrysotile, particularly in the presence of
12 amphiboles because as concluded by the most recent
13 meeting of IARC monographs, the latter appears to have a
14 greater potency for the induction of mesothelioma than
15 does chrysotile. Correct?

16 A. Yes. What they're saying is even though the
17 chrysotile cohorts have some amphibole exposure, they say
18 their research clearly shows there's an excess of
19 mesothelioma associated with chrysotile even given the
20 potential for some mixed exposure in these chrysotile
21 cohorts.

22 Q. Am I correct in this paper -- we'll get to it a
23 little bit later on. They went on to try to rank the
24 various fiber varieties by comparing how many deaths from
25 mesothelioma you could see in a crocidolite cohort as

Direct - Welch

1 compared to nonasbestos related deaths and then compare
2 to the other cohorts; is that right?

3 A. Correct.

4 Q. And there is, like, 15 or 16 studies listed in
5 this lit British Journal of Cancer paper, are these some
6 of the key studies that you rely upon for informing your
7 opinion that chrysotile causes mesothelioma? What's up
8 here on the slide, Dr. Welch?

9 A. Yes.

10 Q. And Dr. Brodtkin talked a little bit about the
11 Chinese studies. Am I correct there have been a series
12 of papers relating to chrysotile-exposed cohorts in
13 China?

14 A. Yes. There's a textile plant and chrysotile mine
15 that have been reported on.

16 Q. Okay. And what do these Chinese studies generally
17 show?

18 A. Well, the textile workers plant, you know, based
19 on what's summarized in here. Oh, you have it up there,
20 too. Yeah. There's been two mesotheliomas among -- I
21 think there are about -- it's either five or 700 workers
22 enrolled in the study at the Chinese textile.

23 Q. At one of those papers, they actually calculated
24 the increased risk for mesothelioma in those chrysotile
25 textile workers?

Direct - Welch

1 A. Right. They say it's 33 times increased risk over
2 what you'd expect in a population of that size.

3 Q. The Court has heard a lot of testimony about the
4 Balangero, Italy studies. I'm not going to belabor the
5 point but just briefly, Dr. Welch, what have those
6 studies shown when you consider all the papers relating
7 to the asbestos exposures out of the Balangero mines that
8 have appeared in the literature over the past 25 or 23
9 years?

10 A. The Balangero mine is a chrysotile mine and what
11 the studies show is now among the miners, there are six
12 mesotheliomas. And as you can see in the chart there, it
13 went from two in the initial report to four in 2009 and
14 then the most recent update there are six in the miners.
15 When you calculate the standardized mortality ratio from
16 the Pira paper, it's clear statistically significant
17 access, in my opinion, it's not attributable to other
18 mineral contaminants in the mine.

19 Q. Is another set of studies you rely upon the
20 Loomis, North Carolina cohort?

21 A. Yes.

22 Q. Could you explain to the Court the significance of
23 that study?

24 A. Well, it's one of the ones that --

25 Q. It's one of the ones that the British Journal of

Direct - Welch

1 Cancer calls a predominantly chrysotile cohort?

2 A. Right. It has -- the study -- there's been maybe
3 eight papers published out of North Carolina, some
4 combining with the South Carolina textile plants and I
5 think there -- really it's an amazingly good study. I
6 don't know how -- I could just go on and on about what a
7 good study it is. But what they did in the study was
8 they not only looked at the death rates among the people
9 who worked in the plant but they went back and got the
10 old cassettes from dust sampling and analyzed those
11 cassettes with new methods with our more current methods
12 and create methods and created a job exposure matrix so
13 they could look at dose response within the plant.

14 So they could see whether the lung cancer risk and
15 the asbestosis risk because those were more frequent.
16 And they could do a dose response with those whether
17 they're related to dose, fiber size, it's been a -- it's
18 -- it's been so useful to IARC, for example, or to people
19 who want to do risk analysis by fiber type IARC. Hodgson
20 and Darnton used some of the Dement studies to update
21 their potency estimates.

22 Q. Okay. When they looked at the old air sampling
23 data, did the Loomis and Dement actually take the fibers
24 they found at the north and South Carolina textile plants
25 and run them through an electron microscope and try to

Direct - Welch

1 figure out whether it's chrysotile or something else
2 there?

3 A. They did that. I think they looked at like 38,000
4 dust samples and for ones that were not -- the methods
5 they describe in the paper, the ones that were not
6 obviously chrysotile, they did a detailed analysis,
7 allows them to determine fiber type and they found a
8 total of 16 fibers that were not chrysotile and almost
9 all of them -- I think 14 out of the 16 were tremolite,
10 which is known to be a contaminant of chrysotile to a
11 certain, you know, more or less degree depending on which
12 mine it's coming from.

13 Q. Let me get this straight. They had 38,000 fibers
14 that they were able to analyze from the '60s and '70s and
15 they ran those through an electron microscope and out of
16 those 38,000 fibers, there were 14 tremolite and two that
17 might have been some other kind of amphibole?

18 A. Correct.

19 Q. Would you consider that based on that data to be
20 an overwhelmingly chrysotile-exposed cohort?

21 A. Yeah. I mean, I'd say that's a chrysotile cohort.

22 Q. And regardless of whether some interrogatory
23 answers from a company that's been out of business for 40
24 years might suggest that there might have been a --
25 occasionally an amosite product that might have been

Direct - Welch

1 mailed out from Marshville and some other guys might have
2 testified I don't know what's there if you actually look
3 at the objective data, which is the air sampling results,
4 what does that tell you about this cohort?

5 A. It tells you that -- well, it tells you that what
6 Dr. Dement said in 1984 about that cohort continues to be
7 true about that cohort. He said there was some amosite
8 used in Plant 3 but not where the meso cases were. So he
9 doesn't think we can attribute those cases to the amosite
10 that was known to be there, and we don't have any other
11 evidence of amosite used in that plant.

12 MR. FINCH: Your Honor, at this point it's a good
13 breaking point to stop for lunch, if it's okay with Your
14 Honor. I have a few more topics to cover with Dr. Welch,
15 but this is an appropriate stopping point if that's okay.

16 THE COURT: It's okay with me. Is it all right
17 with everybody else?

18 MR. SCHACHTER: Yes, sir, Your Honor.

19 THE COURT: All right. Let's come back at 1:30, I
20 guess.

21 MR. FINCH: Thank you, Your Honor.

22 (Off the record at 12:28 p.m.)

23 (On the record at 1:31 p.m.)

24 THE COURT: Mr. Finch.

25 BY MR. FINCH:

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1 Q. Good afternoon. Ready to proceed?

2 Dr. Welch, when we broke for lunch we were talking
3 about chrysotile and the ability of chrysotile to cause
4 mesothelioma. I want to change gears and ask you
5 questions about a related topic which -- what, in your
6 opinion, nature and level of exposure to asbestos has
7 been shown to be sufficient to cause mesothelioma in a
8 human being.

9 Q. I think, actually, it's been described well in the
10 Helsinki criteria in terms of occupational exposure. It
11 says any documented occupational exposure essentially,
12 not quoting it exactly, is sufficient. There's no level
13 that doesn't have a risk. So in any individual case if
14 I'm looking at a case and attributing it myself, I look
15 at the details of the case. But we know from some of the
16 studies you have up here in case series and case reports
17 that short exposures to asbestos cause mesothelioma.

18 Q. Okay. So the first two studies you've shown up
19 here is Iwatsubo and Rodelsperger that are -- Dr. Brodtkin
20 talked at length about. Am I correct these are
21 case-controlled analytical studies where the fiber type
22 is not specified?

23 A. That's correct.

24 Q. And what did those studies generally show in terms
25 of the nature and level of exposure to asbestos that you

Direct - Welch

1 were able to quantify the risk from that?

2 A. Well in those studies in different ways they have
3 estimated -- they put people into groups by an estimated
4 fiber year which is a measure of exposure of asbestos.
5 And found that there was an increased risk of
6 mesothelioma at levels below one fiber year as a total
7 lifetime cumulative dose. Which is low because you could
8 get to one fiber year at a current occupational level in
9 less than a year.

10 Q. Okay. And then what is Greenberg and Davies and
11 Skammeritz papers and why are they significant in
12 analyzing the question of what nature and level of
13 asbestos exposure is sufficient to cause mesothelioma in
14 a human being?

15 A. Those are case series of mesothelioma cases and
16 those -- and then there's other ones where you have Borow
17 there. There's others that I have in my report include
18 cases that occurred after low or short exposure to
19 asbestos.

20 Q. And by "short," does that mean exposure is as
21 short as a day to a few days?

22 A. There is one case that it was a day of cutting
23 asbestos cement or asbestos sheets. There are some that
24 are as short as a few months of doing -- I think in the
25 Borow report there are two cases that were stock clerks.

Direct - Welch

1 Q. And the Borow was a case series that involved
2 predominantly chrysotile exposure; is that right?

3 A. Yes.

4 Q. Have you looked at -- in addition to asbestos
5 generally, have you reviewed some of the literature that
6 informs your opinion about whether low-dose exposure --
7 and by that I mean, you know, less than one fiber year
8 exposure to chrysotile could be sufficient to cause
9 mesothelioma in some people?

10 A. Yes.

11 Q. And does this slide have some of the articles on
12 which you relied?

13 A. Yes, it does.

14 Q. Dr. Brodkin talked about the Madkour study. That
15 was the Egyptian -- the Egyptian factory that had a
16 chrysotile plant in the center and concentric rings
17 around that that shows mesothelioma cases based on how
18 far they were from the factory; is that right?

19 A. That's correct.

20 Q. And there was some discussion with Dr. Brodkin
21 about -- well, there might have been some amphiboles from
22 that plant or other plants that's not the appellate court
23 reflected in the Madkour paper; right?

24 A. Correct.

25 Q. Even if there was the possibility of some

Direct - Welch

1 amphibole, what does the Madkour paper tell you about the
2 risk from chrysotile?

3 A. Well it tells you what you're seeing there is
4 you're seeing that in a systematic way as people are
5 further from the factory, they have a lower risk of
6 mesothelioma. Vice versa, the closer they live to the
7 factory, the higher the risk. And there they displayed a
8 number of cases and the mean fiber concentration showing
9 that it's much higher, then you're closer to the factory
10 and that's a fiber concentration that they measured in
11 the neighborhoods.

12 Q. Okay. So those fiber concentrations, .02, .025,
13 that's the fibers per cubic centimeter, you know, people
14 that are two and a half kilometers away from this plant
15 are getting mesothelioma, is that generally what this
16 shows?

17 A. Right. Yes.

18 Q. You also mentioned the Everatt study. What is
19 that?

20 A. Well, Everatt was, again -- I think it's a case
21 series of predominantly chrysotile-exposed cases.

22 Q. And that's a paper you cite in your report?

23 A. Yes.

24 Q. Where there were several mesotheliomas where some
25 of the people had cumulative fiber exposures that

Direct - Welch

1 estimated less than .01 fiber years?

2 A. Yes, that's correct.

3 Q. What is the Pan study that you discuss in your
4 report and have on the slide here?

5 A. Pan was a -- looked at how many mesotheliomas
6 occurred around -- naturally occurring asbestos deposits
7 in California and those are serpentine deposits so
8 they're chrysotile exposure. And what they did is they
9 looked at -- they took mesotheliomas from the cancer
10 registry and looked at their known address and mapped
11 them on a map of California and found, like with the
12 Madkour, that there was a direct relationship between how
13 frequently mesothelioma occurred and how close they lived
14 to these naturally occurring asbestos deposits and that
15 was true even when they controlled for occupational
16 exposures that were known for these those mesothelioma
17 cases.

18 Q. The defense experts have asserted that based on
19 studies of "brake workers" that low-dose chrysotile
20 exposures can't cause mesothelioma. First of all, do you
21 agree with their review of the literature on the subject
22 of the brake worker studies and what it shows?

23 A. Well, I think, you know, in terms of, say, what
24 Dr. Garabrant had in his report or the review by Hessel
25 that was done in 2004, Goodman, they present what they've

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1 done. I just don't think it's valid. So I don't think
2 you can conclude much about chrysotile exposure from
3 looking at the series of studies and I'm glad you put it
4 in quotes because they're not really studies of brake
5 workers. There's just so many limitations to those
6 studies that putting -- taking ten of them and putting it
7 together in a chart and saying, oh, look, there's no
8 increased risk, garbage in, garbage out. I'm not saying
9 the studies are garbage but for the particular question
10 about whether they demonstrate an excess risk of
11 mesothelioma or the absence of one among brake workers,
12 they have so many limitations. I don't think they prove,
13 really, that useful for that question.

14 Q. Now have you published on this very subject in the
15 peer-review literature?

16 A. Well, yes. We had this -- you have up before the
17 amicus brief is really a review of -- it's the -- the
18 purpose of that was really to say that in the setting of
19 an individual case there is evidence to show that
20 exposure from brakes can cause mesothelioma.

21 Q. Okay.

22 A. It's not a systematic review of the literature.
23 It's saying there's enough evidence that this is
24 something that could be and should be determined in an
25 individual case in a court setting if that's where it

Direct - Welch

1 comes up.

2 Q. Okay. And you were -- as this slide shows, you
3 were joined by 51 other signers on the document; right?

4 A. Correct.

5 Q. You gave them all an opportunity to read the paper
6 before you submitted it?

7 A. Absolutely. They had to send me back an e-mail
8 saying they wanted their name on it before I would put
9 their name on it.

10 Q. Okay. Is it correct that the people who signed on
11 to the paper had conducted dozens of epidemiologic and
12 other studies on the issues of asbestos and disease?

13 A. Yes.

14 Q. And we're going to go through some of those people
15 in a minute. But paper states that the conclusion of --
16 if in the conclusion of people who signed it chrysotile
17 causes cancer including mesothelioma?

18 A. Yes.

19 Q. And what did the paper have to say about whether
20 there was any safe level of exposure to chrysotile
21 asbestos?

22 A. Well, the paper quotes some of those sources we
23 were talking about earlier that, you know, regulatory
24 agencies NIOSH, OSHA, EPA all say there's no safe level
25 of exposure.

Direct - Welch

1 Q. And don't you also write the mainstream scientific
2 community has long recognized and continues to recognize
3 today that there is no safe level of exposure to
4 asbestos? And you go on and discuss that you want the
5 Iwatsubo and Rodelsperger paper among other things?

6 A. That's true.

7 Q. These are some of the people that signed that
8 paper and I'm not going to go through all of them but who
9 is Henry Anderson and what is his background?

10 A. Well, he works for the Wisconsin Department of
11 Health. He's a physician and epidemiologist who works on
12 occupational disease in the state of Wisconsin.

13 Q. How about David Christiani? Who is that?

14 A. He's on the faculty at the Harvard School of
15 Public Health and the Harvard School of Medicine and he's
16 done a lot of epidemiology in lots of areas including
17 asbestos-related disease.

18 Q. How about Dr. Tomatis?

19 A. Dr. Tomatis is or was a famous researcher in
20 Italy. He was one of the founders of the Collegium
21 Ramazzini and has spent a lot of life working on
22 asbestos-related injury and illness.

23 Q. How about Joseph Ladou.

24 A. He was -- before he retired, he was the head of
25 the occupational health program at the University of

Direct - Welch

1 California at San Francisco. He's published a lot in the
2 area of occupational medicine.

3 Q. Am I correct that everyone that you have helped me
4 show on these slides has published peer-reviewed papers
5 that deal with epidemiology?

6 A. Yes.

7 Q. Okay. And James Leigh, who is -- who is that?

8 A. He is from Australia. He's one of the lead
9 researchers who manages or publishes about the Australian
10 mesothelioma registry.

11 Q. Who is Steve Levin?

12 A. Steve Levin --

13 Q. Who was Steve Levin?

14 A. Yeah. He was a physician and epidemiologist at
15 Mt. Sinai. He worked closely with Dr. Selikoff. When
16 Dr. Selikoff died, he took over all of Dr. Selikoff's
17 epidemiologic studies.

18 Q. Who is Rosemary Sokas from the University of
19 Illinois at Chicago?

20 A. She's now at Georgetown. She recently made that
21 move. She and I were colleagues at GW. She's a
22 physician epidemiologist who's done a lot of work in
23 occupational health in areas of immigrant health and lead
24 poisoning.

25 Q. Kay Teschke is a scientist that has actually

Direct - Welch

1 published epidemiology papers specifically evaluating the
2 risk of disease in asbestos and cohorts?

3 A. Yes. She did a case-controlled study looking at
4 mesothelioma, cases of mesothelioma and exposures in
5 those cases.

6 Q. And this is the paper that she wrote Mesothelioma
7 Surveillance Locate Source of Exposure to Asbestos?

8 A. Yes.

9 Q. Her paper was rated the strongest in the Goodman
10 meta -- Goodman-Garabrant meta analysis of mesothelioma
11 and lung cancer among motor vehicle mechanics and meta
12 analysis?

13 A. Yes.

14 Q. They ranked the studies -- 11 studies they
15 considered and they ultimately boiled it down to a subset
16 of that and number three is the Teschke paper, 1997?

17 A. Correct.

18 Q. And yet Ms. Teschke -- Dr. Teschke signed onto and
19 agreed with the proposition that asbestos exposure from
20 brakes can cause mesothelioma?

21 A. Yes.

22 Q. Do you have some opinions about the limitations of
23 the brake studies as presented by Dr. Garabrant that you
24 can explain to the Court?

25 A. Right. And I guess I wouldn't call them brake

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1 studies because the ones that were included in the
2 Goodman meta analysis. And then in Dr. Garabrant's
3 report, almost all of them were case-control studies and
4 what the case control study did was identify
5 mesotheliomas, you know, say through the British Columbia
6 cancer registry, which is how Dr. Teschke got hers, or
7 the California cancer registry and some other sources for
8 Dr. Spirtas, who was working for the National Cancer
9 Institute at the time he did his study.

10 And then they go back and assess the exposure to
11 asbestos among cases and match controls who are not
12 thought to have an excess risk for asbestos exposure. So
13 they're not all brake workers or auto workers that are in
14 the studies. It's anybody with mesothelioma.

15 And then one can then see where individual
16 occupations are at higher risk among those cases. The
17 studies were generally done to look at whether asbestos
18 was associated with mesothelioma and then which
19 occupations stood out. So for some of them, the
20 definition of occupation was vehicle mechanic or auto
21 mechanic. If the -- if the occupation was determined
22 like Dr. Teta in Connecticut, that's one of the other
23 ones included. It was from their death certificate what
24 their occupation was and also from a state registry about
25 what occupations people were in.

Direct - Welch

1 And in some other studies it's from registry data.
2 So all we know is something about that is they were an
3 auto mechanic at some point during their life. Being an
4 auto mechanic doesn't necessarily mean that you did brake
5 work. So right there we have this thing we call exposure
6 misclassification.

7 Q. Is that this third bullet point, misclassification
8 of workers?

9 A. Yeah, it's a misclassification of their exposures
10 because if you assume that being an auto mechanic entails
11 asbestos exposure but it doesn't, then you're putting
12 your -- you're putting that group into your exposed group
13 when really half of your quote exposed group is unexposed
14 and that leads to what we call a bias to the known. The
15 misclassification will make you unable to find something
16 that's truly there. It doesn't make you find something
17 that's not there. So you know, there's what they're
18 there's called type one and type two error but in
19 epidemiologic study, most biases, sample size problems,
20 misclassification. I mean, you may not find a risk that
21 truly exists in that population.

22 Calling your auto mechanics exposed to asbestos
23 when maybe only half of them are exposed to asbestos
24 based on Rodelsperger's study which is one place where
25 we've looked. How many of the auto mechanics had brake

Direct - Welch

1 exposure is diluting your quote-exposed group with
2 unexposed people, so you're not really going to find a
3 difference if you know between your mesos and your
4 controls in brake work if you're not sorting them by
5 brake work. You're sorting them by something that's a
6 surrogate for brake work but is very messy.

7 Q. Okay. And if, conversely, there is a study that
8 shows a statistically significant risk of mesothelioma
9 among people who actually do brake work, what does that
10 tell you about the ability of lower exposures of
11 chrysotile to mesothelioma?

12 A. Well what we know if we do find the study about
13 with brake work, brake work is generally described as
14 lower exposures. I mean, you're talking with cumulative
15 exposures in, you know, five, ten fiber years, not
16 hundreds and hundreds of fiber years the way insulators
17 would have exposures. I think in that Gustavsson paper
18 that Dr. Brodtkin was looking at earlier, the exposures
19 were two or three fiber years for brake workers which
20 would kind of be typical for someone who had had a number
21 of years as a brake worker.

22 Q. Okay. Now you -- one of the issues you raised
23 criticism is long enough latency and what do you mean by
24 that?

25 A. Well, if I -- it appears more in a cohort study

Direct - Welch

1 than a case-control study. A cohort study, you get a
2 group of workers and follow them forward in time or you
3 look at them now and pretend you follow them forward in
4 time to see if they develop mesothelioma, and I think
5 Hansen is one of the ones that's often discussed and
6 that's a cohort study as well as Gustavsson, a couple of
7 others. If it takes 40 years from when you're first
8 exposed to develop mesothelioma and you enroll people who
9 are 30 years old and follow them until they're 50, you're
10 not going to find any cases. You haven't waited long
11 enough.

12 Q. And did IARC in its preamble to the monograph on
13 asbestos and other carcinogens that came out last year
14 talk about this concept that you need at least 30 years
15 of latency period for carcinogens and they weren't even
16 talking about specifically mesothelioma? Did they
17 discuss that concept?

18 A. Right. Yeah. They say that latency periods
19 substantially shorter than 30 years, those studies can't
20 necessarily provide evidence for carcinogenicity.

21 Q. For lack of carcinogenic?

22 A. Yeah. And the other thing they say in there that
23 I think is important is it's important to look at the
24 study, the cancer, the dose level, and the intervals.
25 You have to -- not every study is informative. It might

Direct - Welch

1 be interesting. It might give you some ideas but they're
2 not necessarily going to be informing the specific
3 question you want to ask.

4 And the other thing about misclassification, too,
5 that I think we'll probably talk about is brake workers
6 people who have done brake work tend to have done other
7 work. There aren't many people who make brake work a
8 career. Sometimes they do their own brakes while they
9 are working in some other industrial job. And when you
10 start to look through some of these studies, oftentimes
11 the people who were identified as brake workers had also
12 done shipyard work, insulation work, other things with
13 higher exposures to asbestos. It becomes very hard to
14 sort that out. And you can't just say oh, we're going to
15 do some statistics and control for it in a study. As we
16 said, the brake workers are relatively low compared to
17 those big industrial plants. You can't really stratify.
18 You really would want to look at people who their only
19 exposure to asbestos was brake work and compare them to
20 people without asbestos.

21 Q. And what size -- in order to do that kind of
22 study, what size of population would you need to put
23 together to detect an excess risk?

24 A. If you said you wanted to study brake workers and
25 follow them forward for 30 years, you probably need at

Direct - Welch

1 least 10,000 brake workers enrolled in a cohort study and
2 that just doesn't exist.

3 Q. You're familiar with Dr. Nicholson's projections
4 of asbestos-related mesothelioma that were done a little
5 over 30 years ago correct, Dr. Welch?

6 A. Yes, I am.

7 Q. And Dr. Nicholson was a colleague of Dr. Selikoff
8 at Mt. Sinai?

9 A. Yes.

10 Q. And he projected the future incidence of
11 mesothelioma in the United States over the past 30 years,
12 correct?

13 A. Yes.

14 Q. How have his projections compared to reality as
15 we've gotten National Cancer Institute or SEER data on
16 the rates of mesothelioma in this country?

17 MR. SCHACHTER: Objection. Beyond her area of
18 expertise. We're going to have an economist to talk
19 about all that.

20 THE COURT: Overruled. If she knows, she can
21 answer.

22 THE WITNESS: Yeah. It actually has been quite
23 good. He looked at the number of people in different
24 occupations made some estimate of their level of risk.
25 Particularly how many cases it would be and it's been

Direct - Welch

1 pretty much spot on.

2 BY MR. FINCH:

3 Q. Am I correct that he included 9 million automobile
4 mechanics as people who were exposed to asbestos with the
5 risk of mesothelioma in that projection?

6 A. Yes.

7 Q. And he was projecting 200 mesothelioma deaths a
8 year in the year 2010 among automobile mechanics,
9 approximately?

10 A. Yeah, approximately. Yeah.

11 Q. And Dr. Nicholson was one of the people who wrote
12 the EPA -- the underlying risk assessment that the EPA
13 relied upon for assessing the carcinogenicity of
14 asbestos; is that right?

15 A. That's right.

16 Q. I think we talked about what is a brake worker but
17 Dr. Brodkin talked about this Hansen study. Do you
18 recall that from his testimony this morning?

19 A. Yes.

20 Q. Do you agree with him that the paper says that the
21 -- says for specific cancer sites increases were seen for
22 and lists several diseases including pleural
23 mesothelioma?

24 A. Correct.

25 Q. Although this paper didn't calculate

Direct - Welch

1 mathematically. A risk if you find a mesothelioma case
2 in a cohort that small, what does that tell you about the
3 ability of chrysotile asbestos from brakes to cause
4 mesothelioma?

5 A. The presence of even one case of mesothelioma in a
6 study like that is not likely to be due to chance. It's
7 hard to do statistics that statistics of relative risk,
8 would give you a confidence interval about how likely it
9 is to be due to chance but it's a small study. You know,
10 you have a rare disease and a small number of people so
11 the chance that they would end up in the same study is
12 small. And so we had -- oh, you moved on to Gustavsson.
13 Yeah.

14 Q. And so this study is not evidence that brakes
15 don't cause mesothelioma. In fact, it's the contrary; is
16 that right?

17 A. Right. I wouldn't use this to say brakes don't
18 cause mesothelioma.

19 Q. This was one of the studies that the people in the
20 Goodman meta analysis looked at and excluded; right?

21 A. They sort of included. It was hard to figure out
22 what they did because they talked to Dr. Hansen by e-mail
23 and did an update and it wasn't a published paper of what
24 they kept in the meta analysis. So I don't know how to
25 say they included it. It sort of half included it or

Direct - Welch

1 double included it. I don't know, it's hard to say.

2 Q. And then the Gustavsson paper. Again that shows
3 that's a paper that was actually looking for lung cancer
4 risk; is that right?

5 A. Right.

6 Q. And they did note that there were two persons with
7 pleural mesothelioma with cumulative asbestos exposures
8 of 2.2 and 3.9 fiber milliliter years. And what, if
9 anything, does that tell you about the ability of
10 chrysotile from the brakes to cause mesothelioma?

11 A. The answer as we were discussing it, you know,
12 these are people who had exposure to brakes during garage
13 work where that would be the hypothesis you've made based
14 on the work they did and then calculated a cumulative
15 asbestos exposure for these two cases based on the
16 information they had. Which would suggest that brakes
17 can cause mesothelioma. They do note that one of them
18 was an electrician and so may have had some asbestos
19 exposure. There was the potential for exposure during
20 previous employment. But when you do a cohort study, you
21 don't interview every case and rule out other exposures.
22 You design your cohort study to be the group that you're
23 in your cohort as your exposure of concern and the people
24 in your comparison group are -- you try to have people
25 who don't have your exposure of concern and then you look

Direct - Welch

1 at a relative risk between the two. So the fact they may
2 have had asbestos during previous employment doesn't
3 obviate the result of the study.

4 Q. You're familiar with the Merlo study. That's one
5 of the studies that Dr. Garabrant relied upon?

6 A. Yes.

7 Q. What does the study tell us about the risk for
8 mesothelioma of the people in that study?

9 A. Well, you brought out the highlight there. The
10 standardized mortality ratio is significantly elevated at
11 3.67 for pleural mesothelioma, so that the bus drivers
12 and bus maintenance workers who worked for the city of
13 Genoa were almost four times more likely to get
14 mesothelioma than a comparison population, and I think
15 they used Italian national statistics.

16 So if you compare these people to a group of
17 people that are in general not exposed to asbestos, you
18 find a statistically significant elevated risk of
19 mesothelioma.

20 Q. Okay. Then if you go and compare them to a group
21 of people who are exposed to asbestos from other sources,
22 the -- what happened then?

23 A. Well, yeah. If you say these guys are exposed and
24 this is their mesothelioma rate and let's compare them to
25 shipyard workers who also have mesothelioma, that's not

Direct - Welch

1 really appropriate because the idea is to compare them to
2 an unexposed group.

3 Q. And have other researchers talked about that very
4 phenomena in chrysotile-exposed cohorts?

5 A. Yes. Actually, Dr. Dement looked at this when he
6 did his first analysis of the South Carolina cohort, I
7 think, because -- yes, because in the textile plant is in
8 Charleston and there's also a shipyard there. So he had
9 some discussion in his paper about what's the appropriate
10 comparison? It wouldn't -- if you want to see if the
11 textile workers have an excess of lung cancer asbestosis,
12 you want to compare it to an unexposed population.

13 So he didn't want to use the local county rates,
14 because he knew those were elevated because of the
15 presence of the shipyard. So it's very similar to what
16 we're seeing here. You don't want to use a comparison
17 population but that you know is already high risk or
18 asbestos-related disease. If you did that you'd be
19 saying well, we're trying to see if brake workers have a
20 higher risk of disease than shipyard workers, which we
21 would not expect to be true because we would think that
22 brake workers would have a lower risk than shipyard
23 workers.

24 Q. This is a paper that was published after your
25 report. Are you familiar with it, Dr. Welch?

Direct - Welch

1 A. Yes.

2 Q. What is this paper about, and what does it show?

3 A. So this is we've talked before about a number of
4 these papers.

5 Q. Just for the record, this is a paper called
6 Mesothelioma and Employment in Massachusetts: Analysis
7 of Cancer Registry Data 1988-2003, published in the
8 peer-review journal American Journal of Industrial
9 Medicine that came out a couple of weeks ago.

10 A. Right. And they looked at cancer registry data in
11 Massachusetts so that -- you know, many states have a way
12 of registering all cases of cancer and then they
13 collected occupational data for these number of cases.
14 They had -- actually, I can't remember the number of
15 mesothelioma cases but they have occupational data and
16 they showed an excess risk for brake mechanics in this
17 study.

18 A. I think it was twofold.

19 Q. They found a statistically significant elevated
20 risk of mesothelioma in the auto mechanics?

21 A. Yes.

22 Q. And they list out if I were to suggest to you that
23 the article says there were 564 mesothelioma cases and
24 for occupation and 543 for industry in the 1,424 incident
25 mesothelioma in the Massachusetts cancer registry, that

Direct - Welch

1 -- would that be consistent with your recollection of
2 this paper?

3 A. Yeah, that's about the right numbers.

4 Q. So they were looking at 1,400 mesothelioma cases
5 and doing a case-control analysis, a cancer registry
6 analysis of that.

7 A. Correct.

8 Q. Dr. Garabrant said that this paper, the Rake-Peto
9 paper, stands for the proposition there's no excess
10 warning for doing brake work. Do you agree with his
11 conclusions?

12 A. No, I don't.

13 Q. Have you looked -- actually looked at the backup
14 data to conform your views?

15 A. Yes. There's a 75-page report from the health
16 safety executive, which you have the first page of it
17 there, over on the right with multiple tables that show a
18 significant excess risk for auto mechanics in this
19 case-controlled study.

20 Q. Okay. I want to turn now to briefly fiber potency
21 differences. We talked before the lunch break about your
22 involvement with the EPA science advisory board and how
23 you testified they were a science advisory board and they
24 ultimately concluded, am I correct, that there's not
25 sufficient historical evidence to do a quantitative

Direct - Welch

1 differential differentiation of asbestos fibers by fiber
2 type; is that right?

3 A. Correct.

4 Q. What is this -- you put this slide together and
5 you talked about it at some length both in your report
6 and in your testimony to the Court in the Bondex case.
7 Can you just briefly summarize what it is you're trying
8 to say with this slide?

9 A. Well, actually, I mean, you had a slide of the
10 Balangero, Italy mine before, which in 1990 showed there
11 was two cases of mesothelioma and then there was one in
12 2009 that had four cases. And the most recent analysis
13 of deaths that are related to that mine had six cases in
14 the miners, which makes sense. Because as we take the
15 same group of people and follow them forward in time, if
16 it has to be 40 years between first exposure and disease,
17 people are kind of aging into that group and 40 years is
18 sort of the average, but there are many people where
19 mesothelioma develops 50 years after exposure.

20 So as the cohorts get older and it's as more of
21 them die, then there's just mesothelioma is a relatively
22 rare cancer as to proportion of death. So if your
23 initial study has only 20 percent of your population
24 dying, you won't find as many mesotheliomas as if you
25 have 50 percent. So as the population gets older,

Direct - Welch

1 there's longer latency and you have more deaths, you're
2 more likely to find more mesotheliomas and that's what we
3 particularly see in Balangero and North Carolina, too.
4 As they've gone forward, they've added an additional
5 mesothelioma with additional follow-up.

6 Q. Now this is a paper that we've talked about
7 several times this is the paper in the British Journal of
8 Cancer which had the 30 -- 15 chrysotile cohorts and the
9 60 cohorts from around the world. Am I correct that they
10 were trying to compare mesothelioma death rates in those
11 various cohorts as compared to people who had a
12 nonasbestos related death?

13 A. Yeah. They were looking at trying to overall
14 estimate the population of attributable fraction for
15 asbestos-related lung cancer and they were doing that by
16 relating the lung cancer to mesothelioma deaths.

17 Q. Okay. And this is a chart out of that paper.
18 What, if anything, does this tell you about the relative
19 potency between fiber types of exposure to different
20 types of asbestos?

21 A. Well, they can look at these numbers related to
22 each other. So it's mesothelioma deaths per thousand
23 nonasbestos deaths, so that tells you the number of
24 deaths due to mesothelioma and cohorts, so. And you can
25 see those 16 chrysotile predominantly or only chrysotile

Direct - Welch

1 had a ratio of four where for the for amosites was 18
2 which was about four and a half fold and then crocidolite
3 is much, much higher and the chrysotile and crocidolite
4 are in between the chrysotile and amosite.

5 Q. And this what is the -- and the mix am I correct
6 that the vast majority of people that are ever exposed to
7 asbestos in the world would fall into the mixed group?

8 A. Yes.

9 Q. So if you did the math, what would those ratios
10 work out to?

11 A. Well, the one you have in red down there.

12 Q. Yes.

13 A. It would be for crocidolite 25, for amosite five
14 and for chrysotile one, so amosite being five times as
15 potent as chrysotile.

16 Q. And am I correct that all of these studies that
17 are listed on here except for the most recent ones 2009
18 through 2011 would have been available to be considered
19 by the EPA science advisory board in 2008? Basically
20 anything that was published before 2008 was available to
21 the science advisory board when they concluded there was
22 no way to scientifically quantify differences between the
23 asbestos fiber types?

24 A. Correct. You know to create a number of potency
25 factor which is what goes into that if you were updating

Direct - Welch

1 the Nicholson risk assessment to have a number, that
2 would represent potency but they couldn't come up with a
3 stable number even given all those studies.

4 Q. All right. I'm going to talk with you about three
5 different concepts that are somewhat interrelated and
6 then I think we'll be done. And that's latency, dose
7 response and cumulative exposure and individual
8 susceptibility. And have you created some slides that
9 illustrate the interrelated play between these concepts?

10 A. Yeah.

11 Q. When we're talking about cumulative exposure, what
12 do you mean by that and how does this slide relate to
13 cumulative asbestos exposure?

14 A. Well, when I say cumulative exposure, I mean all
15 the exposure to asbestos an individual had in his
16 lifetime whether it was occupational or environmental.
17 How will we -- however we look at it. And you can take
18 cumulative exposure and break it into as many different
19 exposures as you want. You could make it -- you could
20 make it into days. You could make it into hours. You
21 could make it and do it by product. You could do it by
22 task.

23 And sometimes when people are trying to create a
24 job exposure matrix and in a cumulative exposure measure
25 they will because you have information on task. So you

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1 can say this person did this task for 200 hours of his
2 lifetime. And we know from industrial hygiene, that's
3 the exposure for that task. But they all add up to the
4 total exposure which you have over there. There might be
5 someone, if we were saying we were looking at a
6 particular task but they only did one task their entire
7 life in exposure to asbestos. I don't know anybody like
8 that. I don't think I've ever talked to anybody like
9 that. Most people are --

10 Q. So that would be if Mr. Hypothetical one person if
11 all he ever did was let's say cut gaskets for his gaskets
12 for his entire life and he was never exposed to asbestos,
13 that might be represented by this big fat red bar?

14 A. Right. But let's say if we were looking at tasks
15 even if he was, you know, installing and removing
16 gaskets, he would have multiple tasks in there. So
17 depending on how you're breaking it up, but there are
18 some people where they're just, you know, it's really one
19 you can understand their exposure by understanding one
20 job. But most people have at least a couple of different
21 tasks that give them exposure and a lot of people have
22 many tasks on many different days with different
23 products.

24 Q. So, for example, someone may have been exposed to
25 asbestos for multiple different sources and that bar on

Direct - Welch

1 the right is just a hypothetical example of someone who
2 would fall into that category?

3 A. Correct.

4 Q. What is the epidemiological and scientific
5 literature tell us about the interplay between the more
6 exposure to asbestos you have and your likelihood of
7 getting mesothelioma?

8 A. Well, the more exposure you have the higher your
9 risk of getting mesothelioma. It may not be straight
10 linear like that. It could be, you know, your risk is
11 higher with a smaller dose and then there are different
12 models for that. But we definitely know that the groups
13 that have higher exposure or have the higher proportion
14 of mesothelioma when you follow them up.

15 Q. And what does the increasing exposure to asbestos,
16 what impact does that have on the latency period? By
17 that I mean from the first exposure to the time someone
18 is diagnosed with an asbestos-related disease?

19 A. The intensity of exposure gives you a higher dose
20 and it gives you usually latency is shorter. Or in some
21 ways what we're seeing is the opposite now, which is that
22 as exposures say since the '70s have been reduced,
23 people's latency is longer. Which is why it's gone from,
24 you know what might have been 25 years, 40 years ago to
25 40 years now, the latency between first exposure and

Direct - Welch

1 disease is longer.

2 Q. Generally speaking, when epidemiology studies in
3 asbestos -- but this could be true for many carcinogens.
4 Am I correct that generally speaking when epidemiology
5 studies attempt to analyze the risk of mesothelioma from
6 a given exposure to asbestos, they're looking at the
7 cumulative exposure that people have?

8 A. Oh, yes. Yes.

9 Q. And have you put up the Rodelsperger paper as an
10 example of that?

11 A. Yes.

12 Q. This again was a case-controlled study where they
13 talk about the relative risk from various exposure levels
14 from not exposed, obviously there's no risk but from a
15 greater than zero to 0.15 fiber cc years, there's a
16 statistically significant 7.9 times risk as people that
17 are not exposed. That's what that table is telling us?

18 A. Yes.

19 Q. And what is it they are looking at?

20 A. Well they are looking at for each individual,
21 their total sum exposure had experts look at the jobs and
22 tasks they did and come up with a cumulative exposure for
23 the individuals in that study.

24 Q. And in the conclusion of the paper, they -- again,
25 they discuss the cumulative exposure as causing -- as

Direct - Welch

1 being their risk factor; is that correct?

2 A. That's correct.

3 Q. And if you were to look at other analytical
4 epidemiology studies involving mesothelioma, am I correct
5 that they would oftentimes or generally speaking talk
6 about the cumulative exposure? Do you see this much risk
7 at this much exposure -- this much cumulative exposure?

8 A. Yeah. With different ways of assessing cumulative
9 exposure, sometimes it's in fiber years. Often it's in
10 years of work or years doing certain tasks or years in
11 certain occupations.

12 Q. Now, if you're presented with a person that
13 already has mesothelioma, Dr. Welch, how do you go about
14 assessing what caused his mesothelioma?

15 A. Well, you know, first I make sure he has
16 mesothelioma and then I will look at his or her, you
17 know, occupational and environmental history,
18 particularly with attention to asbestos exposure because
19 that's the known cause of mesothelioma. And I then look
20 at -- I'm essentially doing an assessment of the
21 cumulative exposure because, as we said, mesothelioma can
22 occur from very short, low not quite intense exposures.
23 I don't need to create a fiber burden because I'm not
24 looking for above a certain threshold but I'm assessing
25 the cumulative exposure from all the different

Direct - Welch

1 activities, products, places that that individual would
2 have gotten asbestos exposure.

3 Q. Let me check with my colleagues here.

4 That's all I have for this witness. I would just
5 -- before I pass the witness, I would offer into evidence
6 as substantive evidence her CV, which is ACC-3001, and
7 for demonstrative and Rule 104 purposes her initial
8 report which is ACC-3002, which is actually a series of
9 documents and her rebuttal report which is ACC-3003.
10 Those would be for demonstrative and Rule 104 purposes
11 and then we would offer the slide show when we get it,
12 you know, printed out which would be ACC-3005.

13 THE COURT: Okay.

14 MR. FINCH: Mr. Schachter, any objection?

15 MR. SCHACHTER: No.

16 THE COURT: We'll admit those.

17 MR. FINCH: We have copies of the two reports,
18 3002 and 3003.

19 THE COURT: Okay.

20 MR. FINCH: With that, Your Honor, I'll pass the
21 witness to my learned colleague, Mr. Jonathan Guy, who
22 represents the person with the biggest interest in this
23 asbestos bankruptcy case.

24 MR. GUY: I was hoping someone was going to
25 stipulate that I'm a learned colleague.

Cross - Welch

1 MR. FROST: I will so stipulate.

2 MR. GUY: Thank you.

3 **CROSS-EXAMINATION**

4 BY MR. GUY:

5 Q. Dr. Welch, my name is Jonathan Guy. I represent
6 the future claimants representative, Mr. Grier, who's
7 been in the courtroom for the last, I think, eight days
8 now. Do you know when precautions were first put in
9 place to address hazards associated with installing and
10 removing asbestos-containing gaskets?

11 A. In the United States?

12 Q. Yes.

13 A. Well, when the OSHA standards were put in place
14 that would address gasket exposure but not specifically
15 for gaskets but just that any employer using an asbestos
16 product had a responsibility to assure they were in
17 compliance with the standard.

18 Q. Now from what you said before about the cumulative
19 exposure, does that mean that you or any other scientist
20 can't take an individual patient and say, okay, we're
21 going to do an autopsy now. We can identify the fiber
22 and we know it was made by Johns-Manville?

23 A. Well, yeah, there's many reasons you can't do
24 that, one of which -- yeah, but the fibers are not --
25 they don't come with a product label. You can tell

Cross - Welch

1 whether it's chrysotile or amosite or crocidolite if you
2 do a detailed analysis of the fibers, but it won't tell
3 you what product it came from.

4 Q. So there's no marker?

5 A. There's no marker. Only if there's, you know, you
6 know about the product. So you can say something about
7 what's in the lung but probably not much.

8 Q. Now, you've testified at trial before; correct?

9 A. Correct.

10 Q. How many times?

11 A. Oh, well in asbestos personal injury trial I
12 figured out it was three times in the last three years.

13 Q. Have you ever testified in a case where Garlock
14 was the defendant?

15 A. You know, I would say that Garlock had probably
16 figured that out and I don't remember. You hadn't
17 looked, Mr. Schachter, or you're not going to tell us?

18 MR. SCHACHTER: I never met you before this case
19 but I can't talk for all the lawyers.

20 THE WITNESS: I have been involved in cases where
21 gasket was an issue but whether it was Garlock? I don't
22 specifically remember.

23 BY MR. GUY:

24 Q. But your views concerning the cumulative effects
25 of exposure to chrysotile are not a secret; correct?

Cross - Welch

1 A. Oh, no. I mean, I have held these same opinions
2 for a long time and I have expressed them in court
3 settings on numerous occasions.

4 Q. What you've testified to today before Judge Hodges
5 and everyone else in the courtroom, is that similar to
6 the testimony that you would present to a jury?

7 A. Yes.

8 Q. And in the cases where you've been involved in,
9 the jury also hears the other side, the defendant's side
10 of the science; correct?

11 A. Correct.

12 Q. And you're familiar with Dr. Weill; correct?

13 A. Yes, I do know Dr. Weill.

14 Q. And he disagrees with you, doesn't he?

15 A. On some things, yes. I'm sure. I know -- well,
16 he expressed the opinion that chrysotile doesn't cause
17 asbestosis. So we definitely disagree on that one.

18 Q. The jury hears that testimony; correct?

19 A. Actually, that -- that particular question has
20 never been at issue in a jury trial.

21 Q. Why not?

22 A. Because everybody agrees that chrysotile causes
23 asbestosis. I don't even see why it got raised as an
24 issue but I think that the chrysotile issues come up most
25 around cases of mesothelioma.

Cross - Welch

1 Q. And at the end of the day in a jury trial as far
2 as you know, it's the jury who's deciding which of these
3 two views is the more credible; correct?

4 A. Yes.

5 Q. Now, you've testified in bankruptcy cases before;
6 correct?

7 A. Yes.

8 Q. You testified in the Grace case?

9 A. Yes.

10 Q. Concerning this issue the chrysotile issue?

11 A. Yes. That was one of the issues, yes.

12 Q. And did you testify in the Bondex case?

13 A. Yes.

14 Q. Concerning this issue?

15 A. Yes.

16 Q. When I say "this issue," I mean the chrysotile
17 exposure?

18 A. Whether chrysotile causes mesothelioma, yes.

19 Q. And Judge Fitzgerald heard your view on that;
20 correct?

21 A. Correct

22 Q. And did Judge Fitzgerald hear the views of Bondex
23 on that issue?

24 A. The Bondex experts? Yes.

25 Q. And did Judge Fitzgerald reach a conclusion as to

Cross - Welch

1 which side of that issue was the more credible?

2 MR. SCHACHTER: Objection, Your Honor.

3 THE WITNESS: I don't know how to describe it.

4 THE COURT: Sustained. I can read the opinion.

5 MR. GUY: Do you have the opinion, Your Honor?

6 THE COURT: Yes.

7 MR. GUY: No further questions.

8 THE COURT: Okay. Mr. Schachter.

9 MR. SCHACHTER: Thank you, Your Honor.

10 **CROSS-EXAMINATION**

11 BY MR. SCHACHTER:

12 Q. Good afternoon, Dr. Welch. How are you doing
13 today?

14 A. Hi, Mr. Schachter.

15 Q. You understand that one of our issues here is not
16 just opinion but it's methodology; right? Or you don't
17 understand that?

18 A. Well, yeah, because opinion -- when you reach an
19 opinion, I mean, one of the standards in court is asking
20 based on accepted method.

21 Q. Okay. Now, you mentioned you work for something
22 called CPWR?

23 A. CPWR. But it's now called the Center for
24 Construction Research and Training.

25 Q. Okay. It was previously called the Center to

Cross - Welch

1 Protect Workers' Rights?

2 A. Correct.

3 Q. All right. And it is an arm or an affiliate of
4 the AFL-CIO?

5 A. Yes. It's an affiliate. The center doesn't get
6 any funding from the AFL-CIO but is an affiliate in that
7 we participate in the health insurance and benefit plan
8 of the AFL.

9 Q. You have first become involved in the nature of
10 the asbestos litigation through the screening processes;
11 right?

12 A. Well, no. I mean, I became involved in diagnosing
13 and treating individuals with asbestos-related disease.
14 I don't actually remember when the first time I got
15 involved in anything that was litigation but it wasn't
16 directly from the screening.

17 Q. I asked a poor question. You have a long
18 association with the firm of Motley Rice and its
19 predecessors; is that correct?

20 A. Motley Rice is national counsel of the Sheet Metal
21 Occupational Hazard Trust but that's not in a -- so my
22 association with Motley Rice through SMOHT, but that's
23 not related to litigation cases that I'm part of.

24 Q. You, for years, especially in the '80s and '90s,
25 you would arrange for asbestos screenings; correct?

Cross - Welch

1 A. For the sheet metal workers, yes, and continuing
2 to the present time.

3 Q. Did you ever do it for anyone other than the sheet
4 metal workers?

5 A. When I was at GW we did it for the laborer's union
6 and the elevator constructors. And as I talked to Mr.
7 Finch about it, which were doing for Department of Energy
8 workers as well.

9 Q. And at that time you would participate in these
10 screenings by performing various tests and then reading
11 x-rays of the person screened; correct?

12 A. For the ones where I actually did the hands-on
13 examination, that's correct.

14 Q. And you are not board-certified in radiology?

15 A. Correct.

16 Q. You are not a board-certified pulmonologist in
17 pulmonary disease; correct?

18 A. That's correct.

19 Q. You understand that for diagnosis of asbestosis
20 that it can be difficult to read the x-rays. Correct?

21 A. Well, it can be difficult to read x-rays for
22 anything.

23 Q. Sure?

24 A. But there is specialized training for using the
25 ILO classification for reading dust diseases like

Cross - Welch

1 asbestos.

2 Q. Right. And that's called becoming a B reader;
3 correct?

4 A. The training is separate but the -- there is a
5 test where you can be designated a B reader by NIOSH.

6 Q. And you are not and never have been a certified B
7 reader; is that correct?

8 A. That's correct.

9 Q. You took the test but failed to pass the test. A
10 lot of people have failed to pass that test; right?

11 A. That's correct.

12 Q. Notwithstanding the fact that you are not a
13 radiologist, not a certified B reader, at these
14 screenings you would read the x-rays and then you would
15 send letters to the workers informing them of your
16 opinion that they may have an asbestos-related disease;
17 correct?

18 A. That's correct. I would want to clarify there was
19 also a radiologist who also read the films but I was
20 doing the classification for the dust diseases.

21 Q. All right. And then these people were referred to
22 Motley Rice or some other firm in order to seek follow-up
23 for their disease?

24 A. No.

25 Q. Do you now deny that there was an association

Cross - Welch

1 between the Motley Rice firm and these screenings that
2 you participated in?

3 A. I mentioned that the sheet metal workers screening
4 Motley Rice was their national counsel and Motley Rice
5 would arrange for a lawyer to represent anybody who
6 wanted to pursue a claim. For the hands-on exams that I
7 did for the laborers and the elevator constructors, as
8 far as I know they didn't have any relationship with
9 Motley Rice and I didn't refer people to lawyers. I
10 would give them a letter as you described with their
11 results. And the laborers were -- had a similar trust
12 that was organizing the screening, paid for the
13 screening, and I don't actually know if they had a
14 relationship with any law firm at all.

15 Q. Okay. In addition to asbestosis, you told people
16 that they'd have pleural plaques?

17 A. Correct.

18 Q. Okay. And that's a disease that does not result
19 in any impairment; correct?

20 A. It depends on the individual. And also your
21 definition of plaque. Diffuse pleural thickening is one
22 of pleural scarring that causes impairment so some people
23 have used those interchangeably.

24 Q. You have through the years been an advocate for
25 worker's rights; correct?

Cross - Welch

1 A. For health and safety. Yeah. I would say I'm --
2 if I get a chance, I try to say let's make the world
3 safer for workers. Yes.

4 Q. And in the area of asbestos, you know that there
5 is a body of people who are advocates for the banning of
6 asbestos; correct?

7 A. Yes.

8 Q. And they have organizations and many of the people
9 whose pictures we saw are members of those organizations.
10 Correct? Did you know that?

11 A. There is one organization which was the
12 Association to Ban Asbestos, or it's got a name like
13 that.

14 Q. Yeah?

15 A. And then there are other professional
16 organizations that have signed on for a call for a ban
17 for asbestos; the Collegium Ramazzini.

18 Q. The Collegium Ramazzini, I forget, was
19 Mr. Tomacino or Tomacini?

20 A. Tomatis.

21 Q. Tomatis. He's in that group, and that group
22 definitely have been an advocate for the banning for
23 asbestos; correct?

24 A. The Collegium has sent letters. As a professional
25 organization they've made a statement to the World Health

Cross - Welch

1 Organization supporting worldwide ban on asbestos, that
2 is correct. I wouldn't say they do a whole lot of
3 advocacy but they've done that letter-writing thing.

4 Q. The brief that was mentioned on direct examination
5 that was ultimately published. The title of the article
6 was can you tell us what the title was? I can't
7 remember?

8 A. You know, I don't -- I don't -- actually I have it
9 on my CV. I can find it. I can't remember it either.

10 Q. Something like Asbestos Causes mesothelioma But
11 Not This Mesothelioma?

12 A. Or "Not My Asbestos," one or the other.

13 Q. Yeah. The brief to the Michigan Supreme Court.

14 A. Yes.

15 Q. We don't need the exact words.

16 A. Okay. Yeah.

17 Q. Let's have the exact words, ma'am. We're about
18 science here.

19 A. Yeah. It's "Asbestos Exposure Causes
20 mesothelioma, But Not This Asbestos Exposure."

21 Q. And the subtitle in the brief?

22 A. Yes. The heading.

23 Q. Am I wrong when I assumed from reading that title
24 that the article that was printed re-published portions
25 of that brief?

Cross - Welch

1 A. Yeah. It was taken pretty much from the brief. I
2 mean, what I did was I started with the brief and wrote
3 it more into what would fit into a peer-review
4 publication. Needed to be a little bit shorter, change
5 the references format. You know I had an opportunity to
6 add some references but it was fairly close to the brief
7 that had been submitted. Correct.

8 Q. It was fairly close to the brief that had been
9 submitted and that brief was, I assume, written by
10 lawyers. Right?

11 A. Oh, no. It was written by me.

12 Q. So you did write the brief?

13 A. I did write the brief.

14 Q. Okay.

15 A. I wrote the brief and then I edited it into the
16 paper.

17 Q. And there were lawyers that signed the brief;
18 right?

19 A. No, I don't think lawyers signed the brief. I
20 think it was the 50-something of us that signed the
21 brief. But you know, now that we're getting ten years
22 ago and I can't really remember.

23 Q. And among the signers were a large number of --
24 Dr. Dement and many other people who have appeared as
25 experts for plaintiffs in asbestos litigation?

Cross - Welch

1 A. Yeah. And when Mr. Finch had shown it, he
2 actually called out that part to say we've published and
3 we've testified.

4 Q. And there was a network of people that I guess you
5 showed the picture of a man named Corey Wegman is his
6 name?

7 A. David Wegman.

8 Q. Yeah.

9 A. David Wegman.

10 Q. David Wegman. And he had actually sent out a call
11 to people to sign this; right?

12 A. No. Actually, Joe Ladou had -- I mean, I had sent
13 it out to, you know, whoever I thought might be
14 interested and then Joe Ladou sent it on to other people
15 and some of those people may have sent it on to other
16 people. People who they thought would be interested and
17 might want to sign.

18 Q. And you know Mr. Ladou is a person who has
19 testified as an expert in plaintiff's litigation in the
20 asbestos field; right?

21 A. I don't know that one way or another, but.

22 Q. The brief itself was published in the
23 International Journal of Occupational and Environmental
24 Medicine; is that correct?

25 A. Except the last word is "health." But otherwise

Cross - Welch

1 it's correct.

2 Q. Health? Okay. And that is a publication that at
3 least currently is edited by Dr. David Egilman; is that
4 correct?

5 A. Yes, he's the editor, that's correct.

6 Q. And before that it was Joseph Ladou; correct?

7 A. Correct.

8 Q. And do you know that David Egilman has been
9 serving as a plaintiff's expert in the asbestos
10 litigation?

11 A. I know that he had in the past and I don't know if
12 he still does. I haven't -- I don't know that. But I
13 know at some point in the past he did. I do know that.

14 Q. And you know he has been excluded by courts
15 because he -- he was excluded by one court and he himself
16 appealed the exclusion?

17 A. I have no idea about that.

18 Q. Because he -- okay. That's a different case.
19 We'll brief that to the Court. You don't know about
20 that?

21 A. Yeah, I have no idea.

22 Q. And the article you published on peritoneal
23 mesothelioma, that also was published in that very same
24 journal?

25 A. That's correct.

Cross - Welch

1 Q. I want to focus on the epidemiology that our
2 experts thought was most pertinent to the issues of
3 low-dose exposure. And you did discuss brake workers in
4 your initial report in this case; is that correct?

5 A. I don't think so. I think I actually only
6 addressed it in the rebuttal to Dr. Garabrant.

7 Q. Well, your initial report was you did cite the
8 Langer 1982; isn't that correct?

9 A. Let me just -- it will only take a couple of
10 seconds.

11 Q. Sure.

12 A. I really don't remember anything about brake
13 workers.

14 Q. There's a section in there where you discuss brake
15 workers and asbestos being found in the lungs of brake
16 workers.

17 A. Well, I don't have a section on brake workers so
18 it could be that I reference Langer as part of some other
19 section on low-dose exposures or something like that.

20 Q. It is correct that Langer prepared a case report
21 in 1982. Correct?

22 A. I think that's what you have up there.

23 Q. Well you're the expert on the asbestos litigation.
24 If you don't remember, I mean, the literature, I'm just
25 asking if you remember Langer's report.

Cross - Welch

1 A. You know at some point I have seen Langer's
2 report, but.

3 Q. Okay. Is it correct?

4 A. I can look at it again.

5 Q. That you cited Langer at some point in your
6 rebuttal report?

7 A. I'm just looking to see if I -- it would be nice
8 if I had made these alphabetical but I didn't.

9 MR. FINCH: I object, Your Honor, she cited to a
10 Langer paper from 1998 which is not the one that's on the
11 screen. I have no objection, but he hasn't laid a
12 foundation that she had cited this paper. I have no
13 objection to him asking her if she's seen this paper and
14 giving her a copy of it if she hasn't.

15 BY MR. SCHACHTER:

16 Q. If you go to your rebuttal report on the fourth
17 unnumbered page, it's clear you cited Langer 1982. It's
18 reference 13.

19 A. Yeah, it's reference 13. I see it.

20 Q. All right. And that is the case report; right?

21 A. Yeah, that's the one that you have here. That's
22 the same title.

23 Q. You are -- are you aware that Langer did publish
24 an article in 2003 that dealt with brake workers?

25 A. I don't remember, but -- yeah, I don't remember

Cross - Welch

1 that one in particular.

2 Q. Okay. If in fact Art Langer, after reviewing
3 literature as our experts, have said -- has said that the
4 proportional mortality studies on groups of workers
5 engaged in automotive or brake repair have shown that
6 cancer death and/or mesothelioma specifically were equal
7 to or less than the values calculated for their
8 respective control groups, it would be important if
9 you're going to cite the earlier study to cite the later
10 study that there is no increased risk of mesothelioma
11 according to that author scientifically. Would you
12 agree?

13 A. Well, not necessarily. I'd have to look to see
14 because the title there doesn't necessarily make it
15 directly related. It's about reduction of biological
16 potency of chrysotile on the brake pads. So it's not --
17 it may or may not be part of the same part and parcel.

18 Q. So under the methodology you use to report to the
19 Court on the status of the literature, you felt that you
20 could cite the 19- -- cite the 1982 case report but not
21 the 19- -- the 2003 article by Arthur Langer that deals
22 on brake pads in which he states a contrary opinion to
23 your opinion. Is that correct?

24 A. Well, what I'm saying is I don't -- you're
25 correct. I didn't cite that paper but unless you can

Cross - Welch

1 give me a copy, I can't tell you whether it's relevant or
2 not. I understand that there's a conclusion in there
3 about it, but from the title it looks like it has to do
4 with biological potential rather than epidemiology.

5 Q. Yeah, the biological potential of chrysotile
6 asbestos arising from the conditions of service on brake
7 pads.

8 All right. Well, we'll move on to another point.

9 In your direct examination you talked at length
10 about the Marshville -- well, not at length. You talked
11 about the Marshville plant and the fact that John Dement
12 had done his study and used air samples that confirms the
13 nature of the asbestos?

14 A. I referred to the fact that between -- in the
15 chrysotile cohort textile studies, they looked at 38,000
16 samples to determine the presence of amphiboles.

17 Q. Okay. And you're aware that the documents
18 produced by us in this case dealt with amphibole use
19 while the company UNARCO owned the plant; correct?

20 A. Well, I will accept your statement on that. I
21 remember the documents but I didn't particularly remember
22 if it was when UNARCO owned the plant.

23 Q. You would agree that as a scientific principle,
24 air samples taken at a time when UNARCO did not own the
25 plant would not help us understand anything about the

Cross - Welch

1 nature of the products made while UNARCO owned the plant.

2 Can we agree on that as a matter of scientific principle?

3 A. No.

4 Q. Okay.

5 A. Because I don't know what products were being
6 made. You know if you're saying -- if you tell me when
7 UNARCO sold the plant to Manville, they made completely
8 different products and the sampling was from a different
9 time and completely different products, but I don't know
10 enough about which products were being made at which time
11 to agree with what you said.

12 Q. Okay. Well, the representation as I heard the
13 direct examination was that the fact that there wasn't
14 significant amphibole use at Marshville is corroborated
15 by the tissue sent by the air samples that were analyzed
16 by TEM to determine fiber type by John Dement?

17 A. That's correct, that was my testimony.

18 Q. All right. All right. I just want to be clear on
19 that. You know Dr. Dement was deposed in this case about
20 the Marshville study; right?

21 A. Yes.

22 Q. Did you read his deposition?

23 A. I did.

24 Q. He is your business partner, isn't he?

25 A. And my colleague. Correct.

Cross - Welch

1 Q. And in this case he testified and you have no
2 fiber type by TEM measurement available to you for the
3 period during which UNARCO owned the Marshville plant; is
4 that correct? And he said that's correct.

5 A. Okay.

6 Q. If we want to know what was happening while UNARCO
7 owned the plant, those TEM results aren't going to help
8 us; right?

9 A. If you want to know about UNARCO's time
10 specifically, that's correct. If you want to know
11 whether there was any amosite exposure in that plant, it
12 tells you a lot about that. And I haven't seen anything
13 that would make me -- convince me that there was any
14 other evidence that -- other than what he presented in
15 his initial paper about plant three that there was
16 amosite used in that plant.

17 Q. Actually you reviewed the documents that were
18 produced in this case and there was testimony of a man,
19 John Aldridge, who testified going into the Marshville
20 plant four times a year and seeing the products that are
21 identified by UNARCO manufactured there and in your
22 deposition you said, well, I just don't believe him.
23 That deposition isn't enough for me; right?

24 MR. FINCH: Objection.

25 THE WITNESS: Let me have the deposition and I'll

Cross - Welch

1 read you what he says. He says I don't know. I forget,
2 I wasn't there. Well maybe. And what he says was that
3 product was started in Marshville and finished in
4 Bloomington to his best recollection. Wow. But he
5 couldn't remember the name of any other products made in
6 those plants. I mean, you don't -- I don't have to read
7 it to you because the judge can read my rebuttal report
8 where I go through what I thought about that if you -- if
9 you want to take the time, I'm happy to read it.

10 BY MR. SCHACHTER:

11 Q. Yesterday or the day before, a document was
12 produced by our colleagues on the other side of this
13 case, and this is the Erle T. Plummer subsequent to his
14 December 2, 1974 interview with CHW. Did you review this
15 document too?

16 A. No, I did not.

17 Q. This was the one that was given to me after
18 Dr. Brodkin testified. You were here when Dr. Brodkin
19 testified; right?

20 A. Yes. For most of his testimony.

21 Q. It's notes. It isn't any formal testimony but it
22 certainly informs his opinion apparently. It talks about
23 braided asbestos packings; asbestos yarns braided into
24 rounds or squares, twisted, plain, treated with neoprene
25 and other coatings to conform to industry requirements

Cross - Welch

1 for pump valves and industrial packing. In this
2 department gasket cloth was produced. And there are the
3 dimensions. The basic cloth brass wire inserted was
4 transmitted from the weaving plant at Marshville, North
5 Carolina to Bloomington, Illinois for treating and
6 processing.

7 That indicates that the braided asbestos packing
8 was certainly produced in Bloomington [sic]; correct?

9 A. Sure.

10 Q. All right. This is the UNARCO advertisement --
11 historical UNARCO advertisement about asbestos packings
12 from the raw asbestos fiber?

13 A. Could you make it a little bigger so I can read
14 it?

15 Q. Yeah. I'm working on it.

16 A. Okay. Thanks.

17 Q. We're going to get down to the blue asbestos
18 packing. I guess I have to zoom out just a bit.
19 Asbestos Packing. From the raw asbestos fiber processed
20 in our own asbestos textile mill into the purest asbestos
21 yarns and asbestos fabrics, the carefully designed and
22 manufactured product, and then they talk about which
23 product one of them is. UNARCO style 193 blue asbestos
24 packing. Blue asbestos is crocidolite; right?

25 A. Correct.

Cross - Welch

1 Q. Okay. Because of their chemical characteristics,
2 blue asbestos packing are situated where acid conditions
3 are encountered. Manufactured in plated braid from 100
4 percent blue asbestos yarn and then where a conflicting
5 material is required specifically UNARCO number 192,
6 which is the same as 193 without lubrication or graphite.

7 A. I'm just a little confused. When something
8 material I can't read that word.

9 Q. Okay.

10 A. Cooling something? Not that.

11 Q. Caulking?

12 A. Caulking. Okay.

13 Q. The point is that UNARCO was definitely selling
14 blue asbestos products; right? And they were packings.
15 And even the document produced by the lawyers who have
16 brought you here demonstrates that the packings were made
17 in Marshville.

18 MR. FINCH: Objection. Misstates the document.

19 MR. SCHACHTER: Do you disagree?

20 THE COURT: Overruled.

21 THE WITNESS: I actually -- you showed me some
22 highlighted something out of some testimony that I have
23 no idea or I don't know where the document came from, the
24 one about packings being made in -- made in a textile
25 plant? Oh, made in Marshville and sent to Bloomington

Cross - Welch

1 for treatment.

2 BY MR. SCHACHTER:

3 Q. These are Answers to Interrogatories by UNARCO.

4 A. So there are a lot of braided asbestos packings.
5 You can't necessarily assume they were all crocidolite
6 packings. You they're used for lots of different
7 applications.

8 Q. You would agree that some are, and according to
9 the company records and the interrogatory answers,
10 braided asbestos packing, under oath and in an
11 interrogatory. Answer: Asbestos yarn plaited into
12 squares, twisted and plain, treated with neoprene and
13 other coatings, made in Marshville and shipped to
14 Bloomington for treatment?

15 A. I would agree that braided asbestos yarn was made
16 in Marshville.

17 Q. That's only one of the documents from Marshville
18 that indicate they were making products that contained
19 amosite [sic] at Marshville; right?

20 A. I haven't seen those documents. I mean, what I
21 saw was the deposition from Mr. Aldridge.

22 Q. Okay. So you didn't look at the other documents
23 produced in response that were attached to the report of
24 Dr. Garabrant and the others who have looked at the
25 actual documents?

Cross - Welch

1 A. I looked at everything that was attached to Dr.
2 Garabrant's report. I don't think it puts anything in
3 Marshville.

4 Q. There were records of a known amosite product
5 called Insutape. You saw these; right?

6 A. I don't exactly know what I'm looking at here.

7 Q. Indicating as they have told that there -- these
8 products were shipped in tonnage rates.

9 MR. FINCH: Your Honor, can he show her the date
10 on that document, 1969?

11 BY MR. SCHACHTER:

12 Q. Sure. Even when Johns-Manville took over the
13 plant, Insutape was shipped to UNARCO from the plant;
14 correct? This is even after UNARCO had sold it.

15 A. I don't -- when you look at that whole page, the
16 way I remember it, it talks about shipping that, but it
17 doesn't -- and I don't think it tells you where it was
18 shipped from.

19 Q. Okay the invoices went from Marshville to
20 somewhere else and I guess your point is just because it
21 was shipped from the plant doesn't necessarily indicate
22 it was made at the plant?

23 A. Or that the invoice came from the plant doesn't
24 mean it was shipped from the plant.

25 Q. All right. Those documents I guess will speak for

Cross - Welch

1 themselves.

2 A. I think so.

3 Q. You did see, however, in the catalog for the
4 Marshville plant -- I mean for UNARCO --

5 A. Right.

6 Q. -- that they made asbestos textile products.
7 Correct? And this isn't the packing. These are?

8 A. Right. That's the Marshville plant was an
9 asbestos textile plant.

10 Q. Right.

11 A. We know that.

12 Q. I guess I'll have to read this to you and I'll
13 give it to you and you can confirm it. May I approach
14 the witness to do this?

15 THE COURT: Yes.

16 BY MR. SCHACHTER:

17 Q. It says that when acid resistance is required
18 processed amosite South African asbestos fiber is
19 recommended. UNARCO is equipped to cart or process
20 asbestos fibers to any requirement?

21 A. Right. I remember this because I had reviewed
22 this part. This was attached to Dr. Garabrant's
23 deposition, right.

24 Q. Okay.

25 A. So it says they are capable of making an amosite

Cross - Welch

1 containing textile.

2 Q. And on the same page in the highlighted language,
3 it's clear that they say textiles are made at Marshville.
4 Correct?

5 A. It says -- right. It says that textiles -- it
6 says all of the products described in this catalog are
7 manufactured in the company's six plants and gives the
8 location. And in Marshville, in parentheses after, it
9 says "textiles."

10 Q. Right. And in fact, if the interrogatory answers
11 show that after they sold the Marshville plant, UNARCO
12 stopped manufacturing textiles that would be further
13 corroboration of the fact that whatever textiles were
14 made, they were made at Marshville. If that's --

15 A. Sorry. It's a little convoluted for me.

16 Q. Let's go on to something else.

17 A. It's not something that's my -- that's not my area
18 of expertise, so.

19 Q. Let's go on to something where I think we -- you
20 understand that in this case we have at very great
21 expense tried to understand what the cumulative lifetime
22 exposure was of various types of claimants that will come
23 before the Court. You didn't review any of that
24 information; did you?

25 A. I did not look at the estimated exposure

Cross - Welch

1 estimates, no.

2 Q. But under whatever -- under the methodology that
3 you used for assessing causation, you would agree that
4 once a person's cumulative exposure from a source is
5 under one percent, that's an area where it is
6 questionable to you whether the product was the cause of
7 the person's mesothelioma?

8 A. I'm not sure. The way you answered the question
9 was what you were trying to ask me. Could you try it one
10 more time? I think you said that your cumulative
11 exposure was under one percent.

12 Q. Yes.

13 A. Didn't you mean the product's contribution to
14 their cumulative exposure was under one percent? Isn't
15 that what you were trying to say?

16 Q. Yes. Thank you for correcting me. Can we agree
17 that for you, under the methods that you use to evaluate
18 these things once the cumulative exposure from the
19 product in question is under one percent, it becomes
20 questionable for you?

21 A. I think -- and I don't know whether I had talked
22 to you about this in deposition, but I've been asked many
23 times about this method and how do I decide whether a
24 particular product is a substantial factor in any one
25 individual's mesothelioma. And generally I'd say I got

Cross - Welch

1 to look at the individual case and look at the nature and
2 the extent of the exposure. And certainly when it gets
3 to be a small percent like one percent, I'd want to look
4 very carefully. It's similar to what Dr. Brodtkin was
5 saying. You've got a ten-minute exposure to a gasket,
6 you want to look very carefully about the role of that in
7 the person's cumulative exposure.

8 Q. Sure.

9 A. Usually -- I'm not usually calculating what
10 percent-over particular exposure is in an individual, but
11 if it's a very small proportion of his total exposure, we
12 want to understand it and make sure it occurred. But
13 generally I've opined that short-limited exposures are
14 part of the cumulative exposure and so can be a
15 sufficient cause or substantial contributing cause
16 depending on the language used.

17 Q. All right. So, there you're saying something
18 different. Well maybe not you agree under one percent
19 it's questionable and you'd have to really know what the
20 total exposure is. You need to know that; right?

21 A. Yeah, and how you got to that one percent. But
22 there's -- I guess I could be more clear. I could say
23 there's not a cut-off but I'd say, you know, below a
24 certain fiber year, below a certain percent it definitely
25 doesn't contribute.

Cross - Welch

1 Q. Okay.

2 A. But as the exposure gets lower and lower, I need a
3 higher and higher certainty that the exposure occurred
4 and was a contributing factor to his cumulative dose.

5 Q. So it is reasonable for us in assessing the
6 likelihood that anybody's exposure to a gasket was a
7 significant contributing part of their exposure to
8 determine what percentage it likely was. Correct?

9 A. Well, you know, if the Court and all the parties
10 involved are setting up a system for compensation, you
11 can create things that make it easy or not. But from a
12 medical causation point of view, like I said, I wouldn't
13 put a percent on it.

14 Q. All right.

15 A. The exposures to gaskets in an individual may be a
16 small part of that individual's exposure but it still can
17 be a contributing factor.

18 Q. Well, that's the can be. I'm asking -- we agree
19 that under one percent it raises more questions for you
20 under your analysis. Can we agree with that?

21 A. Yes.

22 Q. Thank you. Under that, can we agree that you
23 don't really have an objective quantifiable method by
24 which you use to determine whether the exposure was high
25 enough to be a cause?

Cross - Welch

1 A. Well, no.

2 Q. If you do, then exactly what is that quantifiable
3 method so that we know whether it's a reproducible method
4 that's supported by the science?

5 A. Right. So the one test, which is a fairly
6 stringent test, was whether that exposure alone, whatever
7 you're saying the one percent is, if that exposure alone
8 absent everything else would have been cause of the
9 mesothelioma in a different person and that person you
10 conditioned can't say right because he had both of them
11 but you say, well, you know, his one percent was one day
12 of sawing asbestos cement sheets. Well we have a case of
13 those published in the literature so that standing on its
14 own, even if it's only one percent, it could have caused
15 it on its own.

16 Q. Okay. And that's something you talked about in
17 your deposition. I want to understand this. Are you
18 saying that under methodology that you employ, one day of
19 exposure is sufficient to be a cause because of a single
20 case report in 1974?

21 A. That case report is part of, I mean, you know,
22 just one case report, no. But we know that asbestos
23 causes mesothelioma. We know from lots of data since '74
24 that exposures that we would agree are low or short cause
25 mesothelioma. And in my opinion, exposure to chrysotile

Cross - Welch

1 causes mesothelioma. So then what I'm saying is their
2 data that helps me benchmark this exposure as causative,
3 the case report helps me with that.

4 Q. Okay. And so under your methodology, the case
5 report is your benchmark for determining that exposure is
6 enough. Is that how you're using the case report?

7 A. Yes. Since we already know that the asbestos
8 exposed to him can cause mesothelioma, we have a case
9 reported from that short an exposure.

10 Q. And you agree that that one case -- the one case
11 report you know of in the whole medical literature
12 involves somebody sawing up an asbestos cement board in
13 Great Britain. And you know in Great Britain, amphiboles
14 were used to make that cement board; correct?

15 A. Probably. Yes.

16 Q. And the hypothesis that one day's exposure to
17 asbestos, even amosite asbestos, causes mesothelioma has
18 not been confirmed by case control or cohort studies that
19 can establish that; correct?

20 A. Right. You couldn't -- you couldn't establish
21 that in case control study, but I mean, I can spend time
22 explaining how the case report's helpful in this context
23 because you have an almost one-to-one relationship
24 between asbestos exposure and mesothelioma. So the case
25 reports provide something special in this analysis of

Cross - Welch

1 that relationship but they might not in other diseases
2 and other exposures.

3 Q. Well, actually, there is -- are you saying that
4 every asbestos -- every case of mesothelioma must be
5 caused by asbestos?

6 A. I -- there are some cases where you can't identify
7 exposure. I don't know that it -- I wouldn't say it
8 wasn't caused by asbestos. I just don't know that it was
9 because you can't identify the exposure.

10 Q. And based on the perspective that you have as a
11 board-certified physician certified by the American Board
12 of Occupational and Preventive Medicine, that's how you
13 look at it? The case report's enough for you?

14 A. The case report's enough and in the context of the
15 thousands of papers that we have that tell us about the
16 relationship between asbestos and mesothelioma, yes.

17 Q. Now another issue that comes into play
18 scientifically when we're trying to decide how we assess
19 that cumulative exposure and if it even gets near that
20 questionable level of one percent is fiber type. Our
21 experts have said fiber type is very important and I
22 guess this is an area of disagreement. Your position is
23 that fiber type is not important in determining the
24 nature of the dose that the person is exposed to?

25 A. Well, yeah. Fiber type if you're looking at

Cross - Welch

1 someone's dose, fiber type doesn't determine dose.

2 Q. Okay. And so for you in making your causation
3 decisions and your making your decisions about whether
4 there was a cause, you don't really take into account the
5 nature of the fiber type. Correct?

6 A. Well you said does fiber type determine dose,
7 which is different than cause.

8 Q. I'm sorry.

9 A. I was wondering if I was being imprecise or if it
10 could should explicate that.

11 Q. Maybe you should be. And perhaps I should be held
12 to a high standard. Let me just ask the question. One
13 of the factors that is important in determining the
14 nature of the dose is the nature of the fiber type of the
15 product. And your basic opinion is that that's not
16 important -- not that important to you.

17 A. Right. And maybe I was also answering the
18 question you asked as opposed to what you meant to ask
19 because --

20 Q. Okay.

21 A. -- the dose is based on, you know, fiber years or
22 exposures and measuring that -- measuring that dose
23 doesn't depend on fiber type.

24 Q. I see.

25 A. What you -- how you assess the risk associated

Cross - Welch

1 with that dose is somewhat affected by fiber type
2 because, you know, I would say that chrysotile is less
3 potent than amosite. I don't think it's a hundred-fold.
4 I think I've said in other depositions it's maybe, oh,
5 from the new paper out of the U.K. it looks like
6 four-fold some other analysis, say, 15. So somewhere in
7 that range. Maybe ten.

8 Q. You'll give us ten?

9 A. I'll give you ten.

10 Q. It is correct, is it not, that people making
11 decisions, not in the courtroom but decisions that will
12 affect actual human health, the safety standards, do take
13 into account a potency difference?

14 A. No, I don't agree with that.

15 Q. Okay. You have cited a paper by Bergdorn;
16 correct?

17 A. Bergdorf from the U.K. Yes.

18 Q. Is that what you were referring to before?

19 A. I wasn't when I said note it was five, 14 let's
20 give it ten. Do you mean that?

21 Q. Yes.

22 A. This is one of the ones that if I had that -- had
23 updated their analysis to try to look different in
24 potency by fiber type. I don't actually remember the
25 number that they --

Cross - Welch

1 Q. Well, actually --

2 A. -- put on it.

3 Q. In your reports you cited their potency difference
4 between mixed exposure and amphibole exposure. It's on
5 page 567.

6 A. Where he's talking about quality has a profound
7 impact on risk estimates.

8 Q. Yeah, they had a different potency for mixed
9 exposure and for chrysotile and this was actually out of
10 the Netherlands, was it not, Dr. Welch?

11 A. Yes.

12 Q. Okay. And it was being done in order to update
13 their exposure levels, the levels of exposure that they
14 would allow people to have to various kinds of asbestos;
15 correct?

16 A. I am not sure. Let me say, because I'm not aware
17 that the Netherlands has a different standard for amosite
18 and chrysotile. They may but I'm not aware of that.

19 Q. I'm going to place --

20 A. Yeah, the bigger one is more helpful.

21 Q. Okay. I'm trying to be helpful. This was a short
22 report on a much larger report that was prepared for the
23 minister of housing special planning and environment in
24 the Netherlands. And what they were looking at was to
25 get new values for their health regulations. And I've

Cross - Welch

1 projected here on the cover letter in this report the
2 committee put forth new values corresponding to the risk
3 levels defined in the context of environmental and
4 occupational health policy. Right?

5 A. Yes.

6 Q. Okay.

7 A. I guess you know kind of in some ways what it
8 comes down to is whether the Netherlands -- I mean in the
9 U.S. we do not regulate by fiber type. We regulate
10 asbestos as asbestos and we talked about that, how the
11 EPA science advisory board said it wasn't real possible
12 to assign one.

13 Q. You're saying -- citing the Bergdorf article as an
14 example?

15 A. Right.

16 Q. Of looking at proper risk analysis; right?

17 A. Of an updated risk analysis and one that focused
18 on quality studies.

19 Q. And this was in 2010. And even the person that
20 you talked to, Leslie Stayner, was a participant in this.
21 Do you know that or do you not know that?

22 A. In this analysis?

23 Q. Yeah.

24 A. I'm not aware of that.

25 Q. Okay. Well, that's not really critical. But they

Cross - Welch

1 propose new regulations and when they did so they used a
2 K_M and that means the ratio of -- the potency ratio of --
3 for mesothelioma of the various fibers. And they said
4 that the K_M values used by the committee indicate that the
5 carcinogenic potential of amphiboles is 50 times as great
6 as that of chrysotile.

7 A. Can you tell me what page that's on?

8 Q. Sure, that's on page 14.

9 A. The table that follows they have the proposed new
10 MTR and VR levels.

11 Q. Yes.

12 A. It looks like what they're proposing is a tenfold
13 difference. Between -- they're lowering their proposed
14 standard pretty dramatically.

15 Q. Yes.

16 A. And if you look at the difference between -- this
17 is on page 14. The following table summarizes the
18 conclusions of the committee's risk analysis. And so
19 their MTR value for chrysotile is 2,800 and amphibole is
20 300. So it's about ten times.

21 Q. No. Not to disagree but the math is for
22 amphiboles, the new ratio is 420 is the new standard.
23 For chrysotile, 2,000 and that's basically a 50-times
24 potency difference; isn't it?

25 A. No. It's five.

Cross - Welch

1 Q. Huh?

2 A. That's five.

3 Q. That's only five?

4 A. Yeah.

5 Q. I got it wrong?

6 A. Hundred percent amphibole.

7 Q. Oh. That's the mesothelioma and lung cancer
8 combined number; correct?

9 A. So, on the previous page?

10 Q. Yeah.

11 A. They have that MTR and VR values for mesothelioma.
12 You know actually I think they're proposing combining
13 them.

14 Q. Yeah. So when you combine them, they're going for
15 the five times but it's based on for mesothelioma
16 potency, a 50-times difference as they say here. I'm
17 sorry if I've confused the math. The K_M values what they
18 use for potency of amphibole's 50 times greater as that
19 of chrysotile asbestos; correct?

20 A. It's going to take me a little while before I --
21 that's the one you told me was on page -- okay.

22 The -- you know it's very -- I wouldn't say
23 complicated but it's a very nuanced report because what
24 they say is what they calculated was potency values for
25 chrysotile alone and a mixture of chrysotile asbestos and

Cross - Welch

1 up to 20 percent amphibole asbestos?

2 A. Right.

3 Q. Right.

4 A. In the Netherlands there are a few situations
5 where people might be exposed to amphiboles alone. They
6 only had a few studies to look at those and those weren't
7 very high quality. So the studies in question didn't
8 satisfy their criteria for inclusion in the analysis. So
9 they used those to calculate an amphibole K_M for a
10 situation that I don't think occurs in the Netherlands
11 because the exposures are mixed.

12 Q. Okay.

13 A. So they give you -- so it's -- in some ways that's
14 like their old number because there isn't enough data for
15 them to use the quality criteria and do an amphibole risk
16 assessment.

17 Q. Well, I guess we won't belabor that.

18 A. Okay.

19 Q. I will offer that at the end of our testimony and
20 whatever it says it says.

21 A. Okay.

22 Q. And we'll get that worked on.

23 Let me just go through a few more issues because a
24 lot of this is covered in our briefing --

25 A. Okay.

Cross - Welch

1 Q. -- and in the reports of our other experts.

2 The issue here is gaskets and packing. You've
3 cited a number of studies to this Court and you cited to
4 the Bondex court a number of studies and let me just go
5 to those quickly.

6 Now, finish up on the brake worker's study. You
7 mentioned this test, Ms. Teschke's article and she's one
8 of the people who joined you in the advocacy to the
9 Michigan Supreme Court. We look at not our opinion but
10 her data. You would agree that she did report an odds
11 ratio of .8 and that it was not statistically
12 significant; correct? If you don't know, just tell me.

13 A. No. I just wanted to be sure that she reported
14 that as opposed to that being part of someone's
15 re-analysis of her papers. But what I -- what's
16 important though is also -- is that how many -- those
17 vehicle mechanics had exposure to other asbestos products
18 and in her study if you were to exclude if you were to
19 look at the number of vehicle mechanics who did not work
20 in other asbestos-exposed jobs, there's only one. So
21 comparing six mechanics to 20 mechanics when we don't
22 even know they did brake work but they all had exposure
23 to insulating products is not really a study of brake
24 workers.

25 Q. It was accepted and published in the peer-reviewed

Cross - Welch

1 literature along with all these other studies; correct?

2 A. Sure. Yeah, sure.

3 Q. Okay.

4 A. But that's the problem with using that -- those
5 studies for this question is the limitations of those
6 studies is there's a lot at stake here. You shouldn't be
7 using studies that really shouldn't be applied for the
8 question at hand.

9 Q. There is a lot at stake here. And we're looking
10 at the data about it and these studies that you've talked
11 about that you claim don't have enough latency.

12 Dr. Garabrant went through using some of the same
13 studies. If there was a statistically significant
14 association, these studies for the various occupations
15 using some of the same studies he -- some of the same
16 studies that were in the brake literature they show it;
17 right?

18 A. But I wasn't saying that these -- I'm not sure
19 what those studies are but the case control studies
20 latency is not really a problem. What's the problem in
21 the case control studies is exposure misclassification
22 and sample size.

23 Q. Okay. So in your rebuttal report where you talk
24 about latency being the problem and that there's an
25 average 40 year, that's not the case.

Cross - Welch

1 A. That's for the cohort status.

2 Q. Okay. We've already talked about Langer. You
3 agree that the most -- well, we don't need to go through
4 that you've cited this study and this is a registry study
5 and it's the only study that has ever come out that shows
6 any kind of statistically significant increased risk for
7 vehicle mechanics reported in there?

8 A. No, that's not true because the Peto 2009 did and
9 the Merlo one that we talked about did.

10 Q. Well, Rake and Peto is 2009 and they say that
11 there is no statistically significant increased risk.
12 Right?

13 A. Well, if you would -- I can show you where it is.
14 I just got to get out that paper. So if you would go
15 with me to table -- so do you have that big report?

16 Q. I have it electronically.

17 A. It's page 18. Page 18, table 3.2.2 which is
18 mesothelioma Cases and Controls Who Worked For At Least
19 Five Years in Various Occupations. And the motor
20 mechanics are included in the low-risk industrial, which
21 is on page 19 as it continues. So you -- you know, I
22 looked -- this is the one in the British journal.

23 Q. Yeah.

24 A. And I looked through the big report to figure out
25 where that .4 came from and I couldn't validate where it

Cross - Welch

1 came from but the risk in this table for motor mechanics
2 is 3.8 and SMR 3.8 and it's statistically significant
3 based on 18 cases and 54 controls.

4 Q. Somehow you've got the narrative that Rake and
5 Peto gave is wrong. I guess we'll have to address that
6 in our -- that's your contention that they're saying
7 there is an increased risk among vehicle maintenance
8 workers involving brake work?

9 A. Yeah. The big tables do demonstrate that.

10 Q. Okay. The table you're looking at does not limit
11 it to brake work. But somehow Julian Peto, one of the
12 foremost epidemiologists in the world -- you even talked
13 about him on direct -- is writing there doesn't seem to
14 be an increased risk. And buried in the table, you think
15 that there is a risk?

16 A. Oh, yeah. Definitely. From the table, when you
17 look at the people who have five years in the trade, it's
18 almost fourfold.

19 Q. Okay. Back to this study.

20 A. Okay. And this was --

21 Q. And this was included on Dr. Garabrant's report.
22 And you know that this study was funded by an
23 organization called the International Mesothelioma
24 Program report?

25 A. No, actually I didn't read -- I was looking to see

Cross - Welch

1 if I had the paper because I thought Mr. Finch gave it to
2 me.

3 Q. Funding source?

4 A. The funding source? I don't know what the funding
5 source is.

6 Q. I'll represent to you that the funding source of
7 that -- the only paper that has ever shown it.

8 A. Well, I already disagreed with you that was the
9 only paper.

10 Q. Okay. The paper that showed that was the Baron &
11 Budd firm, the Motley Rice firm, the Thornton and Naumes
12 firm, the Ferraro law firm, Kelly and Ferraro, and
13 Simmons Cooper, each of them were contributing -- making
14 \$3 million contributions to the organization that was
15 funding that research.

16 A. What's the name of the organization that you were
17 saying that's the foundation?

18 Q. It's the -- as stated in the report, it was
19 contact sponsor Brigham and Women's Hospital
20 International mesothelioma Program.

21 A. Okay.

22 Q. Okay. And "special thanks" in that report was
23 given to David Wegman, the person that --

24 A. Right. Dr. Wegman and Dr. Kreibel -- wait. Wait.
25 What are you saying about Dr. Wegman? You said the

Cross - Welch

1 person who, and then you made a face.

2 Q. He was one of your signers to your brief?

3 A. Oh, yeah. Sure. And he's a really guiding light
4 and a leading researcher in the area of occupational
5 health. He's headed five or six different Academy
6 Institute of Medicine committees looking at a whole range
7 of things. He's a go-to guy in public health.

8 And Dr. Kreibel is an amazing epidemiologist.

9 Q. Okay. One of the issues is whether the
10 Bradford-Hill criteria requires a statistically
11 significant association as a methodological point of
12 science. You disagree with that; correct?

13 A. What I think I disagreed with in that question is
14 the series of studies. Because you're really going from
15 -- Bradford-Hill says you go from an association to
16 causation by doing these things. And one of the criteria
17 is the consistency which is reproduce ability so you can
18 start with one association.

19 Q. On strength of association, you disagree that
20 strength of the association under Bradford-Hill measures
21 determined by the level of the relative risk. Is that
22 correct?

23 A. It's actually, really, determined by the
24 statistical significance, the strength of the
25 association. And I understand you've got a reference

Cross - Welch

1 manual and scientific evidence but if you have a high
2 relative risk but with a very big confidence interval,
3 you don't really know what that relative risk is. The
4 more narrow the confidence interval, the more sure you
5 are that there's a relative risk.

6 Q. Your opinion is that it is not generally applied
7 in a manner in which the higher the relative risk,
8 greater the likelihood that the relationship is causal;
9 is that correct?

10 A. Yeah. I think that's true. Now I understand what
11 your -- I think I explained it. You want to know that
12 the relative risk -- the association between exposure and
13 disease is real and that's the significance that tells
14 you whether that difference is real. The higher the
15 relative risk, the more attributable it is. But you
16 could have a very high relative risk but a confidence
17 interval then is so wide as to have like 1.1 in it.

18 Q. Ma'am?

19 A. Go ahead. Sorry.

20 Q. Yeah. In your report, and I don't mean to be
21 rushing you but there is limited time. You were asked --
22 you in your report, you discussed one of the
23 Bradford-Hill criteria a biological gradient and you
24 cited an article by Lee and you said in your report that
25 found deaths due to mesothelioma increase with the risk

Cross - Welch

1 of lung cancer across a range of cohort studies. Taken
2 together, these studies provide support for the dose
3 report -- for the dose response between chrysotile
4 exposure and mesothelioma. In fact, is it not correct
5 that Li wrote, we do not find any support evidence of a
6 dose response relationship by a statistically significant
7 positive correlation coefficient?

8 A. I would have to look at the paper to agree that
9 that's what they said.

10 Q. Okay. These were the cohorts you talked about in
11 your Bondex testimony. And here, it is true that in
12 Balangero there have been more cases but in the original
13 study that was reported in the '90s, there are two cases
14 but there were more years of follow-up after that until
15 the Pira study came out with the six studies you've
16 talked about. Right?

17 A. Correct. That's what you expect with more years
18 of follow-up.

19 Q. And in Bondex, and here I guess you testified to
20 27 cases but it is true that among those 27 cases are
21 cases in which the authors themselves note possible
22 tremolite as a cause of the mesothelioma.

23 A. One of these are slides from Bondex. These
24 weren't the slides we used today. When I was talking
25 about Balangero, we were talking about going from to two

Cross - Welch

1 to six as an increase in among the miners and I did point
2 out there were those other cases. Now do the authors say
3 that the increased risk is attributable to tremolite?
4 Not to my recollection.

5 Q. But it was a case series and in the case series
6 there were several of the cases in which tremolite is
7 noted; correct?

8 A. Right. But those weren't the miners.

9 Q. Oh. They weren't the miners?

10 A. They weren't the miners. I'm talking about
11 updating the miner cohort you go from two to four to six.
12 The tremolite might have been tailings from a talc mine,
13 something else and there was -- so they do discuss that
14 some of the other cases, the other community cases in
15 those 27 may have had other exposures but not the miners.

16 Q. And when you testified in the Bondex, you didn't
17 inform the Court and no one asked you about the tremolite
18 contamination issues in the Balangero cohort; correct?

19 A. Do we want to talk about that?

20 Q. I just asked a question.

21 A. I don't -- I don't think the Balangero miner
22 cohort is affected by tremolite. So I didn't present
23 that evidence. And if no one asked me that, then I
24 didn't answer the question. But it's not my opinion that
25 the miners have exposure to tremolite.

Cross - Welch

1 Q. And you're aware that ten percent of the tailings
2 in the Balangero mine are tremolite?

3 A. No.

4 Q. You disagree with Mickey Gunter's paper saying
5 that; correct?

6 A. Yes, and I would point out that that's a statement
7 in a book chapter somewhere with no reference to wherever
8 he got those numbers. So there's no reference to --
9 there's no data presented. There's no -- I doubt that he
10 was the one that went to Italy and measured the tremolite
11 contamination, but he provides no backup data. It's
12 almost an aside in a book chapter.

13 Q. And after the Mirabelli article, there was a more
14 recent article that dealt with these mines and that was
15 the Pira article; correct?

16 A. Pira, right, it was 2009. Wait, no, you said
17 Mirabelli was.

18 Q. Mirabelli came out first, then Pira; correct?

19 A. I think it was the other way around. I think it
20 was -- oh, Pira, Piolatto and Mirabelli. Mirabelli I
21 thought was the most recent one with the 27 in it, but
22 that's okay, we'll get it straightened out.

23 Q. Well, the record will have those studies. They're
24 already before the Court.

25 A. Right.

Cross - Welch

1 Q. But what I represent to you is the more recent
2 article is Pira. And they talk about a fiber silicate.
3 Balangeroite was, however, characterized consisting of
4 brown rigid and brittle xyloid fibers with a complex
5 structure similar to gageite usually intergrown with
6 chrysotile. Balangeroite accounts for .2 to .05 of
7 chrysotile obtained from the Balangero mine. Little is
8 at present known about its adverse effects in humans,
9 although they can be suspected as its morphology is
10 similar to those of amphiboles and it has several
11 characteristics in common with crocidolite asbestos
12 including durability cell toxicity and the oxidant
13 activity of the fibers.

14 You were aware that was stated about balangeroite,
15 the contaminant, there in Balangero; correct?

16 A. Correct. And there's some studies since then that
17 have presented evidence that is much more similar to
18 chrysotile and its characteristics and durability so it
19 doesn't stand out as something that would explain the
20 elevated risk of mesothelioma in that mine.

21 Q. For epidemiology there's something called a
22 confounder?

23 A. Confounding is a question in epidemiology.
24 Correct.

25 Q. If there is a potential other toxic substance in

Cross - Welch

1 there, that's a confounding point and that needs to be
2 discussed in a group at issue. Would you agree?

3 A. You're making such a general statement that I
4 don't know that I can agree with that.

5 Q. All right. Let's move on.

6 A. When you do an analysis of an epi study, you have
7 to discover whether there are confounders.

8 Q. Our case involves low-dose exposure to a product.
9 The Pira study at table two talks about where the excess
10 cases of mesothelioma, does it not?

11 A. Yes.

12 Q. And they found no cases of mesothelioma. Let's
13 make sure we're on the right column. I apologize if I've
14 -- the pleural or peritoneal cancer is the third column.
15 So can we agree that when we look at total fiber year
16 dose, we should be looking at that third column and that
17 --

18 A. Correct. Yes.

19 Q. -- for exposures under 100 fiber years, they found
20 no cases of mesothelioma in this study. Is that correct?

21 A. That's true. Could you slide up and tell me how
22 many people there were in that exposure group as well? I
23 guess this doesn't have it but something else --
24 somewhere else in the paper they'll tell us there, you
25 know, what proportion of the population was in that

Cross - Welch

1 exposure group because it would be helpful. It would be
2 helpful to know that and I don't have the paper in front
3 of me.

4 Q. The exposure?

5 A. Sorry.

6 Q. That's okay. In the exposure group from 100 to
7 400 fiber per cc years they had one case; right?

8 A. Correct.

9 Q. And I can't tell here and then the other cases all
10 had more than 400 fiber years of exposure; correct?

11 A. Correct.

12 Q. The Connecticut study you say zero to five.
13 Actually, as it was reported in our -- did you read Dr.
14 Garabrant's report in this case?

15 A. Yes, I did.

16 Q. And you know that he discusses in there that all
17 five of those cases that they're reported in an article
18 co-written by a plaintiff's lawyer in asbestos
19 litigation? Did you know that?

20 A. That doesn't make it not probative information.

21 Q. No. But as Dr. Garabrant's report documents, all
22 those claimants, the ones that were documented from the
23 plant actually made claims against Johns-Manville or
24 other companies that manufactured thermal insulation
25 products. Would that be a confounding fact that we'd

Cross - Welch

1 need to take into account when we're considering that
2 plant?

3 A. Well not necessarily. I think that one of the
4 issues too with that plant is whether those people --
5 what number of those cases were part of the original
6 cohort, but when you do a cohort study, you take the
7 group of people who work in a plant and you compare them
8 to the general population. You don't go through them one
9 by one and see what their other exposures were because
10 the design of the cohort study presumes -- or I shouldn't
11 say presumes, but you design a cohort study so that what
12 differs between your cohort and the general population is
13 your exposure of interest. Say for example working in
14 the Connecticut plant. And that the distribution of
15 other risk factors would be randomly distributed amongst
16 the two populations so it wouldn't be affecting the risk.

17 Q. Okay. These five cases were not part of a cohort
18 comparative control. It is a report of five cases based
19 out of lawyers's files and not disclosing the other
20 exposures. If that's true, you still consider that
21 important. Is that correct?

22 A. We didn't -- actually, I didn't even discuss the
23 Connecticut plant in my direct as a matter of fact but we
24 can so I don't know if we want to go through it.

25 Q. Did you -- I thought you showed Quebec in your

Cross - Welch

1 direct then. Did you discuss it?

2 A. We had it on the slide but I was talking about
3 Balangero and North Carolina.

4 Q. In your testimony in Bondex you represented to the
5 Court, did you not, that there had been an update of the
6 Quebec cohort by Dr. David Egilman; right?

7 A. No, that he --

8 Q. And that was incorrect?

9 A. That he had identified another case from the mine.

10 Q. Yeah, and it wasn't from the --

11 A. He hadn't updated the cohort.

12 Q. And as Dr. Egilman's article explained and as I
13 think we established in your deposition, that wasn't from
14 the same cohort that was studied by McDonald?

15 A. Correct. Right. So that particular cohort has
16 not been updated, which it would be interesting if
17 someone did.

18 Q. Okay. Well, thank you very much, Dr. Welch. And
19 I apologize for my -- any impropriety in my tone.

20 A. Okay. You're welcome.

21 MR. FINCH: Brief redirect, Your Honor.

22 **REDIRECT EXAMINATION**

23 BY MR. FINCH:

24 Q. Very, very brief. The Massachusetts paper that
25 was published a few weeks ago, Roelof's paper. Do you

Redirect - Welch

1 know some of the authors, Dr. Welch?

2 A. Yes. I know Laticia Davis very well. She's on
3 our advisory board and I've worked with her 20 years.
4 And Dick Clapp I know to some degree. And Cora Cole of
5 my center funds some of her research.

6 Q. Would those have any -- lawyers have anything to
7 do with writing a paper?

8 A. No.

9 Q. It says it's funded by the International
10 Mesothelioma Program?

11 A. Right. I think the Brigham and Women's.

12 Q. The International mesothelioma Program Division of
13 Thoracic Surgery at Brigham and Women's Hospital?

14 A. Yes.

15 Q. I have here the program report of the
16 International mesothelioma Program. That describes the
17 goals of The International mesothelioma Program. Can you
18 see that, Dr. Welch?

19 A. Yes.

20 Q. What are the goals -- the first three goals of the
21 International mesothelioma Program?

22 A. Well, the first one is advancing treatment and
23 then the second is coordinating a research program to
24 develop new diagnostic and screening techniques. The
25 third one is collaborating with a dedicated

Redirect - Welch

1 epidemiologist to characterize exposures.

2 Q. And you were asked some questions about the
3 funding sources. May I approach the witness, Your Honor?

4 THE COURT: Yes, sir.

5 BY MR. FINCH:

6 Q. And there are literally hundreds of donors to the
7 International Mesothelioma Program, is that right,
8 Dr. Welch?

9 A. Yes. This is tiny print and it goes on for four
10 pages.

11 Q. And the leadership counsel committed a minimum of
12 \$100,000 but then it goes on to list foundation trusts
13 and estates, corporations and a bunch of individuals,
14 many of which are presumably mesothelioma victims;
15 correct?

16 A. Correct.

17 Q. And among the corporations listed is IBM
18 Corporation. See that?

19 A. Yes.

20 Q. Does IBM represent plaintiffs in asbestos
21 litigation?

22 A. I don't think so.

23 Q. And M&T Bank. Do you see that?

24 A. Yes.

25 Q. Do they represent plaintiffs in asbestos

Redirect - Welch

1 litigation?

2 A. I don't think so.

3 Q. The Milford Elementary School. Do they represent
4 plaintiffs in asbestos litigation?

5 A. Probably not.

6 Q. You were asked some questions about the Rake --
7 actually before we get to Rake-Peto, you were asked some
8 questions about this Netherlands study. Do you recall
9 that?

10 A. Yes.

11 Q. In the question where they're talking about the
12 case for mesothelioma. Could you just read what this
13 committee did beginning with the word "for" through where
14 I have ended with "amphibole asbestos?"

15 A. Sure. For its mesothelioma meta analysis, the
16 committee made a selection from 12 available cohort
17 studies. Application of the committee's selection
18 criteria led to just two of these cohort studies being
19 deemed suitable for inclusion. One concerned exclusively
20 was exposure to chrysotile asbestos and one concerned
21 with exposure to a mixture of amosite and chrysotile
22 asbestos in which the latter was predominant.

23 Q. Let me stop you right there. "Latter was
24 predominant" refers to chrysotile asbestos; correct?

25 A. Yes.

Redirect - Welch

1 Q. Keep reading.

2 A. The cite he used the K_M value for these studies to
3 calculate a single value of chrysotile asbestos and a
4 single value for exposure to a mixture of chrysotile
5 asbestos and up to 20 percent or amphibole asbestos.

6 Q. When there's two studies to calculate the case of
7 myth for mesothelioma, when they're saying the
8 carcinogenic potential of amphiboles is 50 times as great
9 as that of chrysotile, they're comparing chrysotile only
10 to 80 percent chrysotile to 20 percent amosite; is that
11 right?

12 A. I think when I said it, they were saying they were
13 trying to create one for amphibole alone, but they had to
14 use studies. They had excluded to come up with that
15 number.

16 Q. And whenever they did, they lowered the exposure
17 limit in the Netherlands based on the more current data;
18 correct?

19 A. Oh, yeah, dramatically, like ten -- degrees of
20 tenfold, I think.

21 Q. You were asked some questions about the Rake-Peto
22 study. And that's the backup data that Dr. Garabrant
23 said he had looked at all this detailed information in
24 the back. That's what you looked at; right, Dr. Welch?

25 A. Yes.

Redirect - Welch

1 Q. All right. And if you go to the table: Number
2 mesothelioma cases and controls who worked at least five
3 years before 1992 in various occupations, subjects with
4 any exposure in preceding occupational categories are
5 excluded in the right-hand part of the table. What does
6 it tell you about motor vehicle mechanic?

7 A. Well, when you include all the motor vehicle
8 mechanics, whether they had other exposure or not, you
9 have 18 cases and 54 controls and you have an odds ratio
10 of almost four, which is significantly different than one
11 because the lower limit of the confidence interval is 1.9
12 and then the bottom part says if you exclude people who
13 have other exposures you're only left with two cases.
14 And this is typical of what we've seen in the other
15 studies. You know, when Mr. Schachter was asking me I
16 was saying in the Teschke study if you exclude the people
17 who had other exposures you get almost no cases left. So
18 if we look at motor mechanics comparing them to controls,
19 without excluding the other exposures you have a
20 significant risk.

21 Q. Okay. And so on the exclusion criteria, subjects
22 with any exposure in preceding occupational categories,
23 that would be the construction or the medium-risk
24 industrial --

25 A. Correct.

Redirect - Welch

1 Q. -- are excluded in the right-hand part of the
2 table. So am I correct if somebody does brake work for
3 more than a motor mechanic for more than five years and
4 they have five days of work in construction, they would
5 get tossed out of the cases in the analysis; right?

6 A. Yeah. If that exposure in construction or the
7 higher risk categories had been identified as part of
8 their occupational history, they did interviewing in the
9 mesothelioma cases, they would have -- that's how they
10 got from 18 down to two was eliminating people with any
11 potential exposure in those other occupational groups.

12 Q. Okay. If you just look at the motor mechanics who
13 worked more than five years, you've got a significant
14 escalated risk of mesothelioma?

15 A. Correct.

16 Q. Finally, from the Marshville, that's the paper
17 from 2012 where they do the counting of the fibers. 160
18 historical dust samples captured in plants from 1964 to
19 '71 as described previously. That's what you were
20 talking about on Direct?

21 A. Yes.

22 Q. And then Mr. Schachter showed you an invoice from
23 1969 that shows a sale of some kind of Inustape out of
24 this plant. Right?

25 A. Yeah. I couldn't even tell from the invoice when

Redirect - Welch

1 I looked at them before where it was being sold from,
2 but.

3 Q. Have you seen ever -- did they ever show you or
4 Dr. Garabrant or anybody else any invoices that showed
5 the purchase of amosite or crocidolite fiber by the
6 Marshville plant?

7 A. No.

8 Q. And then when in this 1969 timeframe which is in
9 the -- isn't it right in the middle of the '64-'71,
10 that's when they were doing their dust samples, what did
11 they find in terms of the fibers counted and the results?

12 A. Well, that's where there were two fibers that were
13 potentially amosite but there were only 16 fibers that
14 were amphiboles and 14 of those were tremolite.

15 Q. That's all I have, Dr. Welch. Thank you very much
16 for your questions.

17 MR. SCHACHTER: The only thing I would like to
18 offer into evidence, the Dutch document. I guess we'd
19 make it Exhibit 1600, not 16000.

20 MR. FINCH: 16000 is fine with me.

21 THE COURT: That's allowed.

22 Thank you, Dr. Welch. You can step down. Let's
23 take a break. We'll come back at five minutes till 4:00.

24 (Witness excused at 3:41 p.m.)

25 (Off the record at 3:41 p.m.)

Direct - Turlik

1 (On the record at 3:59 p.m.)

2 THE COURT: Good afternoon.

3 MR. KRISKO: Good afternoon, Your Honor, Jonathan
4 Krisko for the debtors.

5 THE COURT: Okay.

6 MR. KRISKO: Having finished with the witnesses on
7 the science issue by the Committee, the debtor is going
8 to call John Turlik. Your Honor, during Mr. Turlik's
9 testimony, we may touch on some of the information that
10 plaintiff's counsel has designated as confidential. When
11 we get to a point in his testimony where I think that is
12 likely to be part of his testimony, I'll advise the Court
13 and we can clear the courtroom if --

14 THE COURT: All right.

15 MR. KRISKO: -- that's the Court's preference.

16 THE COURT: All right. Why don't you do your best
17 to work around that.

18 MR. KRISKO: I will, Your Honor.

19 THE COURT: I greatly prefer it if we didn't have
20 to do that anymore.

21 (Witness duly sworn at 4:00 p.m.)

22 **DIRECT EXAMINATION**

23 BY MR. KRISKO:

24 Q. Good afternoon, Mr. Turlik.

25 A. Good afternoon.

Direct - Turlik

1 Q. Could you please state your full name for the
2 Court?

3 A. Yes. My name is John Turlik, T-U-R-L-I-K.

4 Q. Where do you work, Mr. Turlik, and what is your
5 position?

6 A. I'm an attorney at the law firm of Segal,
7 McCambridge, Singer and Mahoney. And actually, I'm a
8 partner, a shareholder there.

9 Q. Why have the debtors called you to testify in this
10 case?

11 A. Well, for many years I was -- since 2003 I was the
12 eastern regional counsel for Garlock, so I have a large
13 amount of factual knowledge. I also have developed
14 various expert opinions -- various opinions about the
15 litigation.

16 Q. Okay. Have you prepared some slides to assist you
17 in providing your opinions and your testimony to the
18 Court?

19 A. Yes, I have.

20 Q. Mr. Turlik, please describe your educational
21 background.

22 A. Well, I graduated from the University of Akron in
23 Akron, Ohio majoring in political science in 1978. Like
24 most good Poli Sci majors, I then went to law school at
25 the University of Akron School of Law, 1981, where I

Direct - Turlik

1 graduated in 1981.

2 Q. After you graduated you became a member of the
3 Bar?

4 A. Yes. I first passed the Ohio Bar. Two years
5 later I passed the Pennsylvania Bar; a number of years
6 later, the Maryland Bar.

7 Q. And in what courts are you admitted to practice?

8 A. In addition -- I'm actively a member of each of
9 those three Bars. I've also been admitted to the Eastern
10 and Middle Districts of Pennsylvania and the Third
11 Circuit Court of Appeals. Additionally, I've been pro
12 hac'd in various states around the country, both in
13 federal and state court.

14 Q. What did you do after law school?

15 A. Well, I first started off with the Summit County
16 Legal Defenders Association, a Public Defenders' office.
17 I actually worked there in law school, first, as a
18 volunteer and then as a paid intern. I had a certificate
19 from the Supreme Court of Ohio which allowed me to try
20 cases. So, I actually had four jury trials while I was
21 still in law school before I passed the Bar. But I was a
22 staff defender after passing the Bar.

23 Q. Okay. So you continued in that role after you
24 graduated from law school and passed the bar?

25 A. Yes.

Direct - Turlik

1 Q. Did you try cases in that position?

2 A. Yes. I did both jury and non-jury trials.

3 Q. What did you do next, Mr. Turlik?

4 A. I then went to the Legal Defenders Association of
5 Philadelphia, again, a Public Defenders' office. I went
6 there in 1983.

7 Q. Okay. And what was the nature of your position?

8 A. Primarily, representing felons and people accused
9 of various crimes in jury and bench trials. I also did
10 some civil commitment proceedings where I represented
11 people who the government thought needed mental health
12 treatment.

13 Q. So you tried cases in that role as well?

14 A. Absolutely. Yes.

15 Q. What came next?

16 A. Well, in 1989 I began with the law firm of
17 Goldfein and Hosmer. I started off as an associate but
18 ended my term there as a partner.

19 Q. What was the nature of your practice with Goldfein
20 and Joseph -- Goldfein and Hosmer?

21 A. When I started, I did a 50/50 blend of general
22 litigation and asbestos work. The asbestos client I
23 represented was Garlock. So, starting in 1989.
24 Throughout my time there -- I started doing depositions.
25 Shortly thereafter, because I had trial experience, I got

Direct - Turlik

1 into the courtroom doing hearings and then trials; was
2 involved in settlement negotiations. Basically, by the
3 time I left, doing, basically, the whole round of what an
4 attorney does in an asbestos case.

5 Q. Okay. And I think you said that Garlock was the
6 principal asbestos client that you worked for?

7 A. Yeah. Yes.

8 Q. You described some changes in your practice during
9 your time at Goldfein -- at the Goldfein firm. Can you
10 describe in more detail those changes?

11 A. Yes. Like I said, it was a 50/50 blend. In 1996,
12 I had a jury trial in Baltimore that lasted a number of
13 months. And during that period of time, I had to give up
14 my general lit cases, and I started becoming full-time
15 working on the Garlock cases at that point.

16 Q. Okay. How many trials would you say that you had
17 during your time at Goldfein and Hosmer?

18 A. Well, I probably started more than a hundred
19 separate individual trials. And by that I mean
20 individual plaintiffs. Some of them were consolidated
21 into groups of two, five, seven cases. But, over a
22 hundred plaintiffs I started, I'd say I took at least 50
23 individuals to, at least, a phase one or damages verdict.
24 I probably tried 20 or more to a complete verdict where
25 the case was terminated at the end of that trial.

Direct - Turlik

1 Q. Okay. And how many cases were you lead trial
2 counsel?

3 A. Oh. In each of those, I was lead trial counsel
4 for Garlock.

5 Q. Okay. What jurisdictions did these trials occur
6 in?

7 A. Primarily, Pennsylvania, where I live and where I
8 practice. But I had trials in Maryland -- during that
9 period: Maryland, in New York, in Ohio, Florida,
10 Georgia. I started trials in various jurisdictions.

11 Q. Okay. What came next after your time at the
12 Goldfein firm?

13 A. Well, in 2003 is when I went to Segal McCambridge.
14 I went as a partner, and the Garlock work followed me.
15 Now, the big thing with that is my position and my
16 involvement with Garlock changed: I became eastern
17 regional counsel.

18 Q. Okay. And can you describe how that role was
19 different than the one you played before?

20 A. Yes. It involved less actual trial work and more
21 supervisory work. So, I had -- I was responsible for
22 helping the Garlock attorneys supervise from the
23 jurisdiction -- the eastern portion of the country. So
24 if you do a semicircle from Virginia, West Virginia --
25 Virginia, West Virginia, Ohio, and then everything north

Direct - Turlik

1 and east of that, that was my jurisdiction. So I was in
2 charge of knowing what was going on and helping the local
3 counsel there with anything they needed. I was involved
4 with -- heavily involved with experts, settlement
5 negotiation, strategy -- really in-depth dealings with
6 the Garlock cases.

7 Q. How many regional counsel did Garlock have?

8 A. There were four of us.

9 Q. Okay. And you were one of those four? And I
10 think you said you covered the eastern region of the
11 United States?

12 A. Yes.

13 Q. You mentioned some involvement in Garlock's
14 overall strategy. Can you describe that for the Court?

15 A. Yes. Both in terms of meeting with the attorneys
16 from Garlock and, also, in regular phone conversations.
17 So, sometimes it was on the wide picture of where we were
18 going, what we were doing, problems that were being
19 presented to us in how we dealt with them, but also
20 case-by-case problems. Basically, a sounding board and
21 running ideas off of each other and helping defend the
22 cases.

23 Q. As regional counsel, how would you describe your
24 role with respect to the cases that were tried in your
25 region?

Direct - Turlik

1 A. Supervisory.

2 Q. What would your supervision of those cases entail?

3 A. Well, I'd be available to the local counsel from
4 the beginning of any case and available for phone calls,
5 answering problems. As the case became closer to trial,
6 I knew every case that was trial listed in the region and
7 I would become more involved. So I would go to the
8 jurisdiction and I would look at the file, see what
9 needed to be done, see where the evidence was, see what
10 evidence was missing. I would help select expert
11 witnesses. I would discuss with the Garrison attorneys
12 the trial -- who should staff the trial, et cetera.

13 Q. Okay. And you may have mentioned this already.
14 But if you could remind the Court, how long were you
15 regional counsel for Garlock?

16 A. From 2003 until Garlock filed for bankruptcy
17 protection.

18 Q. Okay. So almost the balance of the decade
19 following the turn of the century?

20 A. Yes.

21 Q. Okay. Now, I've asked you mostly about -- well,
22 let me ask you this: How many trial cases would you say
23 you supervised as regional counsel?

24 A. The cases, as they approached trial -- well, over
25 a hundred cases.

Direct - Turlik

1 Q. Okay. I've asked you mostly about your trial
2 experience. Can you describe for the Court your
3 experience settling cases?

4 A. Yes. Back in the early days I would settle a case
5 that I was assigned to try slowly. It developed so that
6 I would be more involved with settlements. By the time I
7 became regional counsel, I was involved in settling many,
8 many cases, thousands -- well, over a thousand cases,
9 both in the eastern region. And I had involvement
10 outside of my region settling cases, also.

11 Q. All right. What -- you say outside your region.
12 What jurisdictions would you say you covered overall?

13 A. I didn't necessarily settle all the cases in that
14 state, but I settled cases that were in California, Texas
15 and Indiana, in Illinois. And various cases where a firm
16 might have cases in multiple states, I would be involved
17 in settling those cases.

18 Q. All right. Now I've been principally asking you
19 about your settlement experience with your regional
20 counsel role described here. You did settle cases,
21 though, prior to that.

22 A. Yes. Yes.

23 Q. What was your role there? You mentioned some of
24 that.

25 A. Yeah. I would settle cases as I was assigned to

Direct - Turlik

1 them as the trial attorney. And then slowly, sometimes
2 we would settle cases that were on the trial list after
3 the case I was -- so we would group the cases. And then,
4 at times, I settled an entire docket with the plaintiff's
5 firm.

6 Q. All right. In your role representing Garlock, did
7 you assess trial risk?

8 A. Oh, yes. That was an important part of the job.

9 Q. Did you assess the cost of litigation?

10 A. Yes. Again, as regional counsel, I was -- that
11 was a part of the job.

12 Q. In making decisions or providing advice to
13 Garlock, did you consider what evidence was available to
14 Garlock in any particular case?

15 A. Absolutely. You can't really make a
16 recommendation without doing that.

17 Q. And does that include a plaintiff's evidence of
18 exposures to asbestos-containing products?

19 A. Absolutely.

20 Q. Have you continued your asbestos litigation
21 practice since Garlock filed for bankruptcy?

22 A. Yes, I have.

23 Q. Can you describe that practice for the Court?

24 A. Yes. I am no longer national counsel or regional
25 counsel for any defendant, but I do have a number of

Direct - Turlik

1 clients that are still active in litigation, both in
2 Pennsylvania and in other states, and I represent them in
3 those various states.

4 Q. Have you continued to stay abreast of the laws as
5 they pertain to asbestos personal injury claims?

6 A. Yeah. Absolutely. I have to defend the clients
7 in those states but, also, my firm subscribes to various
8 information sources. So, I do keep abreast.

9 Q. Does that include the various procedural rules,
10 case management orders, docket management practices and
11 the like that might apply to asbestos cases?

12 A. Yes, sir, it does.

13 Q. Okay. Have you monitored changes in asbestos --
14 procedural and substantive laws that apply to asbestos
15 cases?

16 A. Yes, I have.

17 Q. All right. And have you assessed how those
18 changes impact asbestos defendants?

19 A. Yes. Absolutely.

20 Q. Have you ever presented on topics of asbestos-
21 related litigation to any group?

22 A. Yes. I've spoken at a number of CLEs.

23 Q. Thank you, Mr. Turlik.

24 Your Honor, I would tender Mr. Turlik as an expert
25 in assessment and evaluation of asbestos personal injury

Cross - Turlik

1 claims, assessing trial risk and impact of evidence on
2 trial risk, and costs incurred in defending asbestos
3 claims. I would also tender him as an expert in
4 assessing and evaluating the extent to which changes in
5 the asbestos laws impact trial risks and costs of
6 defending asbestos claims.

7 MR. SWETT: Brief voir dire, please.

8 THE COURT: All right.

9 **CROSS-EXAMINATION**

10 BY MR. SWETT:

11 Q. Mr. Turlik.

12 A. Yes, sir.

13 Q. You, obviously, have a lot of historical
14 experience and, thus, I presume knowledge about Garlock's
15 involvement and that of some other clients in asbestos
16 litigation. But it is not going to mean that you are an
17 expert in a subject of -- that's amenable to competent
18 expert testimony. Would you tell me what you believe
19 your expertise in the sense of an expert witness
20 competent to guide the Court and the parties on a given
21 subject is?

22 A. Well, if the definition of an "expert" is somebody
23 who has knowledge above that of the average person, I
24 clearly have that. I have been involved in the
25 litigation for a number of years. I've been actively

Cross - Turlik

1 involved in the strategy. And part of that strategy is
2 using -- giving opinions. Expert opinions that are --
3 that the -- that other people are incapable of giving.
4 They're incapable of having the knowledge base and the
5 experience to give those opinions.

6 Q. You're aware, are you not, of the doctrine that
7 says that it is inappropriate for a witness to instruct
8 the Court on what the law is?

9 A. I'm not aware of that one way or another.

10 Q. Okay. What special study, if any, have you
11 undertaken, leaving aside your historical experience of
12 the subjects that you propose to address as an expert in
13 this case?

14 A. I don't understand -- what additional study?

15 Q. Leaving aside your own personal historical
16 experience, what special study or project have you
17 undertaken in order to formulate opinions to render to
18 this Court in this proceeding?

19 A. Well, I -- first off, I've reviewed where the
20 litigation is going. So I've made an analysis of various
21 changes in the litigation of both in court rules and in
22 legislation and, thus, have made opinions based on my
23 experience as to where that is going.

24 Q. And when did you do that?

25 A. Well, I have done that -- I've done that. In

Cross - Turlik

1 terms of this report, I did it during the -- while I was
2 writing the report. But these are opinions that I have
3 had prior to the report on some of these issues.

4 Q. Based on your experience as an asbestos defense
5 attorney?

6 A. Well, everything we -- every opinion that we have
7 in life is based on our experience and our study. And I
8 did have study for this -- I researched some of the
9 changes in the litigation. So, yes.

10 Q. What I'm trying to figure out is, why are you an
11 expert witness and not just a fact witness? Can you
12 explain that?

13 A. Because I intend to give opinions which are above
14 and beyond facts.

15 Q. And you think it's the witness' intention that
16 determines whether or not he's a competent expert?

17 MR. KRISKO: Your Honor, I don't think that it's
18 appropriate for counsel to argue with the witness about
19 standards of evidence.

20 MR. SWETT: I'm not arguing. I'm putting a
21 question --

22 THE COURT: Sustained.

23 MR. SWETT: Your Honor, we'll just reserve the
24 right to argue in the post-trial submissions that this is
25 not an expert but a fact witness.

Cross - Turlik

1 THE COURT: We'll admit him.

2 MR. GUY: Your Honor, before you do that --

3 THE COURT: Yeah.

4 MR. GUY: -- I'd like to add to the voir dire.

5 THE COURT: All right. Go ahead.

6 **CROSS-EXAMINATION**

7 BY MR. GUY:

8 Q. Mr. Turlik, my name is Jonathan Guy. We've met
9 before?

10 A. Yes, we have.

11 Q. You've never testified in court as an expert on
12 any issue; have you, sir?

13 A. Not as an expert. Everybody has to have a first
14 time.

15 Q. You've never published any articles on asbestos
16 litigation; have you, sir?

17 A. I have not published articles outside of my --
18 articles per se. I have not been published. Correct.

19 Q. And unlike Professor Brickman, for example, you're
20 not an academic in this field, are you?

21 A. No, I'm not.

22 Q. You're a practicing attorney?

23 A. Yes, sir.

24 Q. Much of your work, prior to the bankruptcy in the
25 field of asbestos, the vast majority of it was for

Cross - Turlik

1 Garlock. Correct?

2 A. Yes.

3 Q. Now, when you say you were often called upon to
4 provide opinions --

5 A. Yes.

6 Q. -- you mean opinions to Garlock concerning the
7 value of cases?

8 A. The value of cases, strategy; also, remember part
9 of our strategy was long-term. So we were projecting
10 what would happen in the future. So just like I am
11 projecting in my opinions here in some part, as you're
12 aware, from reading my report, I'm projecting some things
13 that will happen in the future. I did that as part of my
14 job as regional counsel for Garlock.

15 Q. And how long did you do that?

16 A. 2003 is when I became heavily involved as regional
17 counsel.

18 Q. And who did you provide those opinions to?

19 A. The Garrison attorneys. So, Mr. Grant and his
20 staff.

21 Q. Those are privileged conversations, weren't they,
22 sir?

23 A. I would say so. They were within the
24 attorney-client.

25 MR. GUY: Your Honor, we have a problem here. We

Further Direct - Turlik

1 don't have, obviously, access to those opinions, we
2 haven't been allowed access to those opinions, and we
3 would have been precluded from asking about those
4 opinions when this witness was put up for his deposition.
5 We have no objection to him testifying as a fact witness.
6 And I truly believe everything he needs to tell the
7 Court, he can tell the Court as a fact witness. But when
8 he starts getting into areas of projections as to the
9 future as an expert witness, we would object to him.

10 THE COURT: All right. We'll hear him out. We'll
11 allow him to testify and give his opinions.

12 MR. KRISKO: Okay. Thank you, Your Honor. I
13 would like to make a point that the standards for
14 accepting testimony like Mr. Turlik's are inviting of the
15 testimony that he has to offer. The touchstone of what
16 the Court should consider is whether his testimony will
17 be helpful to the Court in understanding the issues
18 before it. I think that the Court will find, based on
19 the testimony that's been disclosed in his expert report,
20 and as well as the testimony that we will elicit here
21 today, that it far exceeds those standards. I'd also
22 point out that Mr. Turlik has provided a report in
23 February of this year; he has been deposed on that
24 report. He has been -- and there has not been a motion
25 or challenge filed to Mr. Turlik's competence to serve

Further Direct - Turlik

1 as an expert witness in this case.

2 MR. GUY: Your Honor, can we have a ruling on the
3 privilege issue, please? Because he's clearly going to
4 talk about his opinions.

5 THE COURT: Well let's deal with that when it
6 comes up --

7 MR. GUY: Thank you, Your Honor.

8 THE COURT: -- and not in the abstract.

9 MR. KRISKO: On that point, Your Honor, I would
10 just like to say that anyone that's going to advise this
11 court on asbestos litigation is necessarily going to rely
12 on their work as attorneys assessing the kinds of cases
13 that this Court has been charged to deal with in these
14 proceedings.

15 **FURTHER DIRECT EXAMINATION**

16 BY MR. KRISKO:

17 Q. Mr. Turlik, speaking of that report, have you
18 prepared a report in connection with your testimony here
19 today?

20 A. Yes, I did.

21 Q. Okay. Your Honor, this is GST-7103. I'd just
22 like to identify it for the record. At the conclusion of
23 his testimony, I will move to admit it on the same basis
24 as other reports that have been offered and admitted in
25 this case.

Further Direct - Turlik

1 Your report, Mr. Turlik, discusses specifically a
2 surge of bankruptcies that began in about 1999 and
3 changes in the litigation environment that you observed
4 during and after that surge. I'd like to talk to you
5 about the period before the 1999 surge, basically, the
6 1990s litigation environment. Can you briefly describe
7 for the Court why Garlock was sued?

8 A. Yes. As Your Honor has no doubt heard, probably
9 again and again, Garlock made the gaskets and packing
10 that were used by -- used in industry and also used in
11 ship -- on ships. They were in facilities which also had
12 thermal insulation. So, Garlock was -- these gentleman
13 became sick with a variety of illnesses, mesothelioma and
14 other diseases. Garlock was sued as a defendant, along
15 with numerous other companies back in the '90s.

16 Q. And what kinds of plaintiffs were those that were
17 involved in litigation against Garlock?

18 A. Primarily, there were -- they were broken into a
19 number of groups. And I had seen this chart and decided
20 that it was very instructive as to the type of defendant
21 or type of plaintiffs who sued Garlock. In breaking them
22 into groups: There were people who had -- their job
23 involved regularly working with the Garlock product. So
24 that would be pipefitters, steamfitters, plumbers, that
25 type of people.

Further Direct - Turlik

1 Then there were other people who had less -- they
2 -- less routine work with the products. So that would be
3 boiler workers, certain shipyard workers, Navy firemen,
4 et cetera. And then as we went down, there were a few
5 people that would have nominal exposure: Electricians,
6 machinists, laborers. And then, finally, people that
7 would have, at best, bystander exposure.

8 The thing that was in common with all of these
9 workers is, while they alleged exposure to Garlock
10 products, they also had extensive exposure to thermal
11 insulation products.

12 Q. I think this chart is something that was provided
13 in Mr. Henshaw's report. Would you say that this is an
14 accurate description of the kinds of plaintiffs that sued
15 Garlock?

16 A. Yes, I would.

17 Q. How many defendants would be sued in any one case
18 against Garlock?

19 A. Back in the '90s, it would be from dozens to
20 sometimes 50, 60, 70 defendants in a case.

21 Q. Were there some defendants that were sued more
22 frequently than others, or named more frequently than
23 others?

24 A. Yes. There were the thermal insulation products.
25 So, companies like Pittsburgh Corning, Armstrong, Owens

Further Direct - Turlik

1 Corning, Fibreboard, US Gypsum, Eagle-Picher, Celotex,
2 Keene. In my early days of my work in Garlock, these
3 were the defendants we saw over and over in the
4 litigation, both in terms of being defendants and seeing
5 testimony concerning them.

6 Q. I know that you have identified these on your
7 slide. But, could you describe for the Court in detail
8 the kinds of products that these defendants made?

9 A. Yes. All thermal insulation products. So,
10 spray-on insulation. So if Your Honor's walked past a
11 building that's under construction and you see the
12 girders and they have, like, a material on them, hanging
13 off of them, that would be spray-on insulation. In the
14 day, that was -- that was asbestos. Also, pipe
15 coverings, cements, various block. So, various types of
16 thermal insulation products.

17 Q. Was it unusual for only one of these defendants to
18 be named in an asbestos case?

19 A. No. Multiple thermal insulation defendants would
20 be named along with Garlock.

21 Q. Okay. You're talking about these specific
22 companies up here?

23 A. Yes. There were some others, but these are the
24 ones I saw most frequently.

25 Q. Can you describe for the Court how Garlock

Further Direct - Turlik

1 defended cases against it?

2 A. Yes. We had a couple of main defenses that we
3 used. One, and probably the most important because it
4 worked in every -- it was applicable to every type of
5 case, was low-dose. And basically, we presented evidence
6 that the -- through industrial hygienists as to how much
7 asbestos would be emitted with work with a Garlock
8 gasket. And those results show that in certain
9 applications there would be no exposure whatsoever; in
10 others, it would be very low exposures.

11 Then we would bring a medical doctor, either
12 usually a pulmonologist or occupational medical
13 specialist, who would then testify that people in the
14 general public breathing the ambient air, walking through
15 the streets of Philadelphia or New York or whatever city
16 I was trying a case in, had exposure to asbestos but it
17 was a very low level. And he would compare that to the
18 amount of asbestos that the worker would get working with
19 Garlock gaskets and show that it was less.

20 We would also, in a mesothelioma case, show the
21 fiber type. The Garlock products were predominantly
22 chrysotile, where the -- a form of asbestos that's really
23 not capable of causing mesothelioma -- to pull that all
24 together what we would do is, then, counter that with the
25 massive exposures of thermal insulation products. And as

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1 Your Honor no doubt has heard, these are products that
2 can be broken apart by hand pressure. So, they're
3 friable. They give off huge exposures.

4 So we would not only show the jury that Garlock's
5 products were incapable of causing these diseases; we
6 would actually show them, during the '90s, who did cause
7 those diseases, because there would be extensive
8 testimony as to these workers' exposure to thermal
9 insulation products.

10 MR. SWETT: Your Honor, this witness has not been
11 qualified in industrial hygiene or medicine. And I move
12 to strike his opinion to the extent that it strays into
13 those issues and purports to tell you that chrysotile
14 can't cause mesothelioma or that the emissions resulting
15 from Garlock products are not harmful.

16 MR. KRISKO: Your Honor?

17 THE COURT: I'll deny your motion. Go ahead. I
18 understand.

19 BY MR. KRISKO:

20 Q. Mr. Turlik, the kind of case that Garlock put on,
21 it sounds like it involved experts, involved science.
22 Was it ever your experience that the jury struggled to
23 understand Garlock's case?

24 A. No. Part of our job as lawyers is to make it so
25 that they can understand. So we had very good witnesses

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1 -- it wouldn't be me who would be stating this. It would
2 be the witnesses that would come to that conclusion and
3 give the juries those opinions, and they'd -- they'd give
4 it in a very straightforward manner. But, especially,
5 the low-dose defense was very easy for the jury to
6 understand: They are exposed to asbestos; that it
7 doesn't cause disease in them. And, thus, the Garlock
8 product, which is less, doesn't cause disease, but that
9 these workers are exposed to huge amounts of other
10 asbestos and that caused the disease. It's very simple,
11 and the juries understood that defense.

12 Q. Was it significant to Garlock that particular
13 defendants produced the kinds of products that you
14 described?

15 A. Yes. These thermal insulation products by and
16 large were chrysotile -- were amphiboles, so, a very
17 potent form of asbestos, and they were all high dose in
18 their usage. So it was very important to show not only
19 we didn't do it, we couldn't cause the disease, but to
20 give the jury who actually did cause the disease. So it
21 was an important part of the defense.

22 Q. You described your experience trying cases. Would
23 you -- how would you describe the frequency with which
24 Garlock went to trial in asbestos cases?

25 A. There were a number of trials that I was involved

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1 in in the '90s.

2 Q. Were there other attorneys around the country
3 trying cases as well?

4 A. Yes, there were.

5 Q. In the '90s, how would you describe Garlock's
6 trial results?

7 A. I have seen statistics that Garlock won better
8 than 90 percent of their trials. And from what I saw at
9 the time, both in cases I was involved in and cases I
10 heard about around the country or that other people in my
11 firm tried, that approximately mirrored those results.

12 Q. Okay. If you could, please, Mr. Turlik, give the
13 Court some detail about the circumstances of these
14 trials. In particular, those of the '90s, I guess,
15 starting with describing for the Court how many
16 defendants would be in a case when it finally went to
17 trial.

18 A. Yes. I had tried cases where at the conclusion of
19 the case I was the only defendant left. But, also, many,
20 many times there would be from one, two, seven or eight
21 other defendants left at trial that would be on -- would
22 be there at the end with me.

23 Q. Okay. And in that circumstance, how would Garlock
24 present its case to the Court?

25 A. Well, the evidence concerning the exposures to

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1 those products, and they were generally thermal
2 insulation products, would be provided by the plaintiffs.
3 So the plaintiff himself, or co-workers, would testify
4 about the exposures and about the dust that was breathed.
5 Then I would go in -- when it was my turn to present
6 witnesses, I would present witnesses who would testify as
7 I earlier described.

8 Q. Okay. And was Garlock successful?

9 A. Yes.

10 Q. How about the other circumstance you identified?
11 I think you described it as cases where Garlock was the
12 only defendant at trial. Those are empty chair cases?

13 A. Yes. Yes.

14 Q. Can you describe those for the Court?

15 A. Yeah. And it's an empty chair because what we
16 would do is we would still bring in the testimony
17 concerning those other defendants who weren't present in
18 the courtroom. So sometimes the plaintiffs would present
19 that evidence in their case. If they didn't, then I
20 would have the evidence available to me and I would
21 question the witness, either the plaintiff or the
22 co-worker, and make sure that the jury understood those
23 exposures.

24 I remember one case in particular where I really
25 took the empty chair to the next level in that the --

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1 there were two or three other defendants in the case at
2 the beginning of the trial, so the jury knew they were
3 present, but they settled before the end and I was the
4 last defendant. The court clerk wanted to rearrange the
5 trial and take those chairs and make it more tidy, and I
6 asked them not to, to actually leave those chairs there.

7 And as I was discussing each of those defendants,
8 I would stand behind the chair so the jury would know
9 that it was this defendant's products that I was talking
10 about. And then at the end of the -- during my closing
11 arguments, I noted to the jury that these defendants
12 might not be here in the courtroom today but they're here
13 in this man's lungs, the fibers from those products are
14 still here. And so it was quite a literal empty-chair
15 defense.

16 Q. In the empty chair cases, would the defendants
17 have settled prior to trial?

18 A. Yes.

19 Q. Okay. And how was the evidence against those
20 defendants developed?

21 A. Well, that evidence would be developed while they
22 were still in the case. So, during deposition the --
23 these defendants were in the case, and the plaintiffs or
24 the co-workers would testify extensively about the
25 exposures to these thermal insulation products.

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1 Q. So, would plaintiffs acknowledge that they had
2 been exposed to this product?

3 A. Yes.

4 Q. And would Garlock have the benefit of those
5 acknowledgments when it went to trial?

6 A. Yes. Whether the plaintiff said it in his direct
7 testimony or not, oftentimes he did. But if he didn't,
8 then I would -- I, or whoever was trying that case, would
9 bring that testimony up --

10 Q. Okay.

11 A. -- and they would acknowledge it.

12 Q. Either way, whether we're talking about empty
13 chair cases or multiple defendant cases, how would the
14 evidence that the plaintiff acknowledged be used in a
15 case?

16 A. Well, we would use it both to show the exposure,
17 and then we would use it with the expert witnesses so
18 that they could comment upon their exposures and opine as
19 to the causation.

20 Q. All right. Turning again, I guess, to your
21 specific experience with empty chair cases. Was it ever
22 your experience that juries would ignore the evidence or
23 a judge's instruction in trying to decide those cases?

24 A. Generally not, but I do know of one instance where
25 they did. They just flat out -- and that case was

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1 appealed and reversed and remanded for a new trial.

2 Q. All right. I guess, continuing with our
3 description of asbestos litigation for the Court. Could
4 you describe for the Court what an exigent docket is?

5 A. Yes. An exigent docket is where we have a
6 gentleman who is, unfortunately, dying of cancer, and
7 what we're discussing here is mesothelioma cases, and he
8 filed the case in his lifetime but is not expected to
9 survive until the normal course of that trial -- the
10 normal trial date. So in some -- well, in numerous
11 jurisdictions, you're allowed to petition the court to
12 speed that case up. Sometimes it's an actual exigent
13 docket where there's other cases that are in that
14 situation. In other states, it's just the case is moved
15 up the trial list. But the whole idea is to try to get
16 the gentleman a trial within his lifetime.

17 Q. Okay. Typically, for those cases that were
18 selected for exigent treatment, how long would it be
19 before they went to trial?

20 A. Sometimes within six months; almost always within
21 a year.

22 Q. In your experience, were plaintiffs able to
23 develop evidence against defendants even during the
24 shortened exigent period?

25 A. Oh, yes. In the '90s we still had considerable

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1 testimony from the plaintiff who was still alive about
2 his exposures to a variety of products, including thermal
3 insulation products. Or, co-workers would come in prior
4 to trial to supplement that testimony.

5 Q. Now would -- and I guess -- would defendants
6 settle in these cases as well?

7 A. Yes.

8 Q. And would evidence be developed with respect to
9 those defendants during this time?

10 A. Yes.

11 Q. And would that evidence be specific to that --
12 those particular defendants' products?

13 A. Yes, it would.

14 MR. SWETT: Your Honor, I'll have to register an
15 objection to perpetual leading of this witness. If he's
16 a knowledgeable fact witness, combined with an expert, he
17 ought to be able to get his story out without being
18 guided so closely by counsel.

19 THE COURT: I'll overrule your objection.

20 BY MR. KRISKO:

21 Q. Did there come a time when there was a change in
22 the litigation environment?

23 A. Yes, there was.

24 Q. Can you describe that for us?

25 A. Yes. Starting at around 2000, there was a --

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1 Q. Actually, I'm sorry. Mr. Turlik, I meant to ask
2 you something else.

3 A. Sure.

4 Q. Let me go back. In your slide here, you've
5 identified four companies in some red tones there at the
6 bottom.

7 A. Yes.

8 Q. Did you do that?

9 A. They were people or companies that filed for
10 bankruptcy in the '90s; in the case of Johns-Manville, in
11 1982. But they then came -- they were still in the
12 litigation in the '90s. But they were companies that had
13 exited before the surge.

14 Q. Okay. We're still talking about the 1990s. Did
15 the bankruptcies of those companies have any -- did you
16 observe any changes as a result of the bankruptcy of
17 those companies?

18 A. Yes. I noticed that there was a lessening of
19 identification as to exposures to those products.

20 Q. Did those changes have an impact on Garlock?

21 A. No, not really, because there were still a
22 considerable amount of thermal insulation products being
23 identified. So, the story of the massive exposures that
24 these gentlemen suffered was still presented to the jury.

25 Q. Okay. Tell the Court a little bit about -- or

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1 whether Garlock ever made cross-claims or joined
2 defendants in cases.

3 A. Oh, absolutely.

4 Q. How did they do that?

5 A. Well, in many jurisdictions it was an automatic
6 cross-claim. So all you had to do was enter your
7 appearance and that answered the Complaint and asserted
8 all cross-claims. It was an effort to save trees by the
9 courts because there was just so much paper being wasted
10 on something that was automatic, for all intents and
11 purposes. Others, you had to actually put the magic
12 words that you were asserting all cross-claims. So, we
13 did that as an automatic basis. But there actually were
14 times where we would look at the Complaint and we would
15 notice that there were defendants missing.

16 And one reason why that would happen would be a
17 person would have a nonmalignant disease, a pleural
18 thickening and asbestosis and sue a variety of thermal
19 insulation products or other -- and other products. They
20 would settle with them in that case but get a release
21 that released that company from all asbestos actions.
22 The gentleman then later got a malignancy and was allowed
23 a new lawsuit but couldn't sue these defendants. So, in
24 those instances we would notice that they were missing.
25 We would find out about the prior lawsuit -- and

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1 actually, it was my personal job at one point to actually
2 join those defendants into the case.

3 Q. Now, this activity -- the cross-claims. You
4 described joining defendants. Was it limited to the
5 litigation experience of the '90s?

6 A. No. We did it throughout.

7 Q. Okay. Let's continue to talk about the '90s. And
8 if you could, describe for the Court your -- the process
9 under which Garlock settled cases during this period.

10 A. Yes. In the '90s, Garlock realized that the
11 litigation of these cases would be very expensive, and so
12 Garlock was able to negotiate deals which kept their
13 costs down. So we would, when necessary, settle a case
14 as an individual case but oftentimes have group deals
15 where we were able to settle a large number of cases with
16 a certain law firm.

17 Q. And what -- at what levels did Garlock simply
18 settle mesothelioma cases?

19 A. In the '90s we were settling mesothelioma cases
20 for \$1,000, \$5,000, sometimes a little higher, but they
21 were really low numbers.

22 Q. I've heard the term "opt out" as it applies to
23 settlement agreements.

24 A. Yes.

25 Q. Can you explain to the Court what that means?

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1 A. Well, an opt out would be a case where you have a
2 settlement agreement. And sometimes some of these
3 settlement agreements went on for years, for five years,
4 for example. The plaintiffs felt they could not bind
5 these future clients. And even if they had clients they
6 represented, they hadn't consulted with them. So they
7 made it as part of the agreement that they had the option
8 to opt out of the settlement and pursue the case in the
9 tort system.

10 Q. Okay. Who would make the decision to opt out of a
11 settlement?

12 A. Oh, it could only be the plaintiff. We were bound
13 by the settlement agreement. So it was the individual
14 plaintiff who would opt out of the case.

15 Q. Mr. Turlik, the Committee asserted in opening
16 statements that defendants will settle the good
17 plaintiff's cases. The plaintiff's cases that are forced
18 to trial, by and large, will be more debatable, more
19 fodder for the jury to determine. Do you agree with
20 that?

21 A. No. Absolutely not. Garlock's intent in settling
22 the cases was to save litigation costs. So we -- and we
23 did not have the ability to opt out of a case. So we
24 paid the cases whether they were weaker or stronger
25 against us. But when the plaintiff had what was

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1 perceived to be a stronger case against Garlock, they had
2 the option of opting out and sometimes did. Those would
3 be the cases -- they're not going to opt out of a case
4 that was weak against Garlock. That doesn't make any
5 sense. They would opt out of their stronger cases.
6 Sometimes it would be to -- and it would be to get a
7 higher settlement value. If Garlock didn't acquiesce,
8 then we had a trial.

9 Q. Did the opt out feature that you described apply
10 to cases that were settled in the '90s and thereafter?

11 A. Yes. It extended into the cases that I was
12 negotiating in the 2000s.

13 Q. Generally, Mr. Turlik, how would you describe
14 Garlock's defense costs during the '90s?

15 A. They were relatively low. We, basically, were
16 able to settle the vast majority of the cases. And those
17 cases that didn't settle, we had a -- we generally
18 thought that the cases would settle. And we had ample
19 evidence to present our defense, so we didn't have to do
20 a whole lot in advance to prepare those cases. So we did
21 -- the meter wasn't running, as it was. We also didn't
22 have to do a lot -- a whole lot of investigation. We
23 didn't really have to do any investigation because the
24 case was already developed in terms of the exposures that
25 these gentlemen incurred.

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1 Q. Okay. Thank you, Mr. Turlik. Now let me ask you,
2 did there come a time when the litigation environment
3 began to change?

4 A. Yes. And it's been referred to by others as a
5 "bankruptcy wave." And what they're asserting there, and
6 what I observed, was a number of thermal insulation
7 defendants around 1999, 2000 began filing it en masse for
8 bankruptcy.

9 Q. Okay. Did the -- and so as that surge that you
10 described occurred, did the kinds of plaintiffs who sued
11 Garlock change?

12 A. No. The only thing that changed in this chart was
13 the year. The same plaintiffs working at the same places
14 and doing the same thing with the Garlock products.

15 Q. And we're looking at the chart that Mr. Henshaw
16 prepared?

17 A. Correct. So I only changed 1990s to 2000s.
18 Nothing else changed.

19 Q. Now you prepared this slide that now lists all
20 these companies in a red tone. Why is that?

21 A. Well, because these are the clients and the years
22 or the -- not the clients, the thermal insulation
23 defendants and when they filed for bankruptcy protection.

24 Q. Now, in your experience in the 2000s, what was
25 said about these companies?

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1 A. Well, as these companies left the litigation, to
2 some degree testimony concerning exposures to them left
3 the litigation. We were not hearing their names nearly
4 as much as we did in the 1990s.

5 Q. Now the future claims representative said this in
6 its opening statement: "Because the plaintiffs didn't
7 change, 1995 pipefitter; 2005 pipefitter. That
8 pipefitter has the same exposure to the same types of
9 products. No one in this courtroom would disavow that
10 statement, Your Honor." Do you agree with that?

11 A. I agree with it as far as it goes that the 1995
12 pipefitter and the 2005 pipefitter did the same thing and
13 would have been exposed to the same products. The only
14 problem was in the 2000s. In 2005 we weren't hearing
15 about the same exposures in evidence.

16 Q. How did these changes you described impact
17 Garlock?

18 A. Quite dramatically. Because what happened was
19 without that testimony, the extensive testimony of
20 thermal insulation exposure, the one part of Garlock's
21 defense, and that is comparing the exposures to Garlock
22 to the thermal insulation, was removed or, at least in
23 large parts, reduced. So we still had our low-dose. We
24 still had chrysotile. But in many cases we were no
25 longer able to say what specific defendant was or what

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1 specific entity or company was responsible for the
2 disease.

3 Q. How did Garlock respond to these changes?

4 A. Well, we -- when we realized that this was
5 happening, we did a number of things. We beefed up our
6 defense. We started trying to get this evidence back
7 into the litigation. We hired experts. Your Honor heard
8 Captain Wasson testify on the first day of this trial.
9 He was one of the experts that we hired to look into the
10 Navy records to try to find these exposures so that we
11 could get these exposures back in the courtroom. We
12 tried to look at various historical documents. We looked
13 at sales records at plants; what they had in the plant.
14 We got old deposition transcripts. And we tried to find
15 co-workers. We tried -- we hired investigators to try to
16 find evidence. We did various things like that.

17 Q. Okay. And was -- were those efforts successful?

18 A. Largely, not. The problem with those efforts were
19 that they -- most of this evidence was not admissible and
20 it also wasn't persuasive. The best evidence as to
21 exposure comes from the plaintiff himself or the actual
22 co-worker that worked with him. These historical
23 documents really are inadequate. They don't -- they put
24 the product at the site but they don't put it being
25 manipulated by or around this person. It doesn't put him

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1 breathing those products, the fibers from those products.
2 So as Your Honor has heard, you actually have to breathe
3 the asbestos to have it cause disease and that's what
4 these records don't have. So, presence is -- does not
5 equal exposure. It has to be manipulated and breathed.
6 And there's cases that stand for that proposition.

7 Q. Are these the cases that you're thinking of?

8 A. Yeah, I just pulled a few from Pennsylvania, New
9 York, New Jersey areas surrounding me and they stand for
10 this really common-sense proposition that the fact that a
11 product was shipped to a plant isn't enough to prove
12 exposure, that you have to breathe it. And even when we
13 were able to get this type of evidence into the jury, it
14 wasn't really persuasive because we didn't have that next
15 part that the person actually breathed it. So it really,
16 really wasn't very helpful to us. And some of it was
17 clearly inadmissible. If we had a transcript from 20
18 years ago that that plaintiff in the room was not able to
19 be present, was not a party to that lawsuit, that
20 transcript's not admissible against him. So, we -- our
21 hands were really tied.

22 Q. Now, the Committee has identified a witness, a
23 Mr. Hanly who is a former lawyer who formerly defended
24 the United Kingdom's asbestos giant Turner and Newall,
25 and he now has become a plaintiff's lawyer. He says that

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1 using product lists, ship records and co-worker testimony
2 is an acceptable substitute for a plaintiff's disclosure.

3 MR. SWETT: Objection, Your Honor. It's not
4 proper to attack another proposed expert before he has
5 testified.

6 THE COURT: Please answer the question. The
7 objection is overruled.

8 THE WITNESS: I'm sorry.

9 BY MR. KRISKO:

10 Q. Mr. Hanly, who I described, has disclosed that he
11 will testify that product lists, ship records and
12 co-worker depositions are an acceptable substitute for a
13 plaintiff's disclosure.

14 A. No.

15 Q. Do you agree?

16 A. No. He's absolutely wrong. As I've already shown
17 or said, the rules of evidence don't allow some of these
18 documents to be admitted and they're not persuasive. The
19 best evidence comes from the plaintiff or the co-worker,
20 the people that were right there and are able to testify
21 that the product was manipulated and that the fibers were
22 breathed. Those documents don't do that, so they're not
23 acceptable substitutes.

24 Q. Mr. Turlik, the Committee -- Asbestos Claims
25 Committee in this case has already contended the

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1 following: That if a plaintiff identifies the type of
2 product without naming its manufacturer, even if known by
3 that attorney, that should be a sufficient -- that should
4 be sufficient for a defendant to make his case.

5 MR. SWETT: Objection to the characterization of
6 our contentions.

7 THE COURT: Overruled.

8 BY MR. KRISKO:

9 Q. Do you agree?

10 A. No, I do not.

11 Q. Why not?

12 A. It's essential that we have the name of the
13 product. What happens is not every -- we have to prove
14 that the product that was breathed contained asbestos.
15 If we don't have the -- what we would do -- and I
16 probably should have included this earlier in my
17 description of what we did in a case. When we had the
18 identification of a certain product, we would then bring
19 in their interrogatory answers and their corporate
20 designees to acknowledge what type of asbestos.

21 So when we were pursuing a chrysotile defense, we
22 would show that it was an affable product, also the
23 asbestos content of the product. So we would have that.
24 We need that. We need to show that it was asbestos. And
25 in a chrysotile case, defense case, in the mesothelioma

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1 cases, we need to show the fiber type. We can't do that
2 unless we know what the product is. Also, just
3 inherently -- it's much more forceful -- it's much more
4 impressive to a jury if you actually name what the
5 product is.

6 Q. Did the changes in the 2000s that you've described
7 impact Garlock's litigation costs?

8 A. Yes, it did.

9 Q. How did they do that?

10 A. Well, everything that I talked about that we did
11 involved costs. So the experts that we hired, the added
12 attorney time, it all added up to make this a much more
13 expensive endeavor.

14 Q. How about settlements? Did these changes impact
15 Garlock's settlements?

16 A. Yes, they sure did. As this chart shows before
17 the bankruptcy surge is Garlock's average mesothelioma
18 settlement was under \$10,000. However, you can see that
19 once the surge started, it more than doubled and then
20 went from there. So the empirical evidence shows that at
21 the time of the surge, the costs just skyrocketed. The
22 cost to settle a case skyrocketed.

23 Q. The kinds of changes in the litigation environment
24 that you described, were those present in every case that
25 Garlock faced?

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1 A. No. No. And if I gave the impression that they
2 were, that was wrong. It was -- what we saw was in some
3 instances -- in many instances there would be no
4 identification of these thermal insulation products by
5 manufacturer. We also saw minimizing of those exposures
6 when they were listed. But there were also plaintiffs
7 who talked just as if they had before. So it ran the
8 gamut. But there were a noticeable lessening of the
9 exposure and lessening of the extent of the exposures.

10 Q. Okay. Were you ever able to get evidence from
11 plaintiffs like you did in the '90s and the 2000s cases?

12 A. Well, yes. There were times where the plaintiffs
13 themselves testified as to these exposures, but there
14 were other times where we were -- we actually were able
15 to get bankruptcy trust filings to show it.

16 Q. And generally, what happened in those cases?

17 A. Well, we were able to present our defense as a
18 full defense, and the results tended to be good. We
19 didn't win every case, but the results were still good.

20 Q. How do you know that this kind of evidence made a
21 difference in the cases Garlock defended?

22 A. Well, I know it because of my experience. I was
23 there in the room and I inherently -- we all know
24 inherently what the jury wants to hear, and they want to
25 hear the full story. So I knew it that way, but I also

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1 knew it because the plaintiffs knew it. The fact that
2 these bankruptcy trust filings and this evidence were not
3 disclosed to us was for a reason. The fact that these
4 bankruptcy trusts were not disclosed and were --
5 oftentimes waited until the case was actually settled
6 before they filed them was for a reason.

7 These people on -- the living people, they were
8 ill and they tried to move the cases up on the tort
9 system so they could have a trial and receive the
10 proceeds from the settlement or from the trial in their
11 lifetime. But then they would -- they would push off
12 these bankruptcy filings. There had to be a reason for
13 that. And the reason is that the plaintiffs knew that
14 that type of testimony was important to us in our
15 defense, and they kept that information from us. They
16 kept it by filing it late.

17 They kept it by -- they showed their hand every
18 time we tried -- not every time. But most of the times
19 when we tried to change a CMO to give full disclosure,
20 they opposed it. When they objected to this type of
21 testimony being given to us and, as you're going to see,
22 by actually hiding these filings from us, they did it for
23 a reason and that reason was obviously because it was
24 helpful to us. We know it and they know it.

25 Q. Did you have any experience with courts

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1 identifying whether that kind of information was
2 important?

3 A. Yes. There were numerous courts who had ruled
4 that that had to be given up to us.

5 MR. KRISKO: All right. Your Honor, we're now
6 moving into a portion of the examination that may touch
7 on some confidential information. I'd ask that in
8 accordance with the Court's ruling, that we remove those
9 persons who are not --

10 THE COURT: How long do you think that's going to
11 take?

12 MR. KRISKO: I would guess about 45 minutes, Your
13 Honor.

14 THE COURT: All right. Well, we'll ask that
15 anybody that hadn't signed a confidentiality agreement to
16 leave now and come back at 9:30 tomorrow morning. I've
17 got to finish this up today and get it done.

18 (WHEREUPON, this portion of the transcript
19 has been sealed pursuant to an order of
20 the Court.)

21 BY MR. KRISKO:

22 Q. All right, Your Honor?

23 A. Wait. Wait.

24 Q. He's one of ours.

25 A. Okay. I just saw somebody walking away.

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1 Q. Mr. Turlik, you're aware the debtors have proposed
2 a plan of reorganization?

3 A. Yes, sir, I am.

4 Q. Are you aware that under that plan, persons who
5 are making asbestos personal injury claims against the
6 debtors would be required to identify all of their
7 exposures to asbestos products, including those of
8 bankrupt companies?

9 A. Yes, I am.

10 Q. Okay. Are you prepared to offer the Court the
11 opinions that you disclosed in your report?

12 A. Yes, I am.

13 Q. Okay. First, let me ask you: Have you formed an
14 opinion about the impact of exposure evidence and access
15 to trust claims on Garlock's trial risks and settlement
16 values?

17 A. Yes, I have.

18 Q. What is that opinion?

19 A. It's my opinion that the trial risk and settlement
20 values would have been reduced if Garlock had full access
21 to trust claims and ballots and, thus, under the plan, if
22 we had that information, that the trial risk and
23 settlement values would have been reduced.

24 Q. Okay. And can you give the Court the reasons for
25 that opinion?

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1 A. Yes. I've already shown how important it is to
2 have that exposure evidence from a plaintiff or from his
3 co-worker, but we're not getting that. So there's an
4 alternative way we can get that information and that's
5 from the trust filings. So, it is -- that is an
6 available means to show the exposures, the full story of
7 the exposures, that these people had.

8 Q. You talked about Garlock's defense of these cases.

9 A. Yes. So if we have that information, either it's
10 given up or -- through testimony or through the trust
11 claims, the ballots, the claims, the 2019s. If we have
12 all that information, then Garlock's low-dose defense,
13 its chrysotile defense, has that thermal insulation
14 testimony evidence to support it again. The defense is
15 full again. It's a whole defense, and that will
16 automatically lessen the trial risk. And when trial risk
17 is reduced, settlement values are likewise reduced.

18 Q. Does Garlock knowing the actual companies'
19 products impact your opinion?

20 A. Yeah. Absolutely. Because of a couple of
21 reasons. Like I said before, it's through knowing the
22 exact companies that we're able to show that the product
23 contained asbestos, the type of asbestos and the quantity
24 of asbestos, and it also gives a full picture to the fact
25 finder. So it's a crucial part of Garlock's defense. It

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1 also shows the magnitude of the exposures. In a lot of
2 these claim forms they talk about the extensive
3 exposures, where we might not get that in the trial
4 testimony or the deposition testimony.

5 Q. Now, Mr. Turlik, have you identified some cases
6 that illustrated -- that illustrate what you're talking
7 about?

8 A. Yes. There have been some cases in the 2000s
9 where we were able to get trust documents into evidence,
10 and the results were good. The first two that I want to
11 talk about was a consolidated trial in Pennsylvania,
12 Dougherty and Messenger. In that case, we ran into the
13 typical -- well, not typical. But the theme that I'm
14 presenting to the Court that we often saw of objecting to
15 any type of providing of exposure to thermal insulation.

16 So in our discovery questions, in our
17 interrogatory questions, we asked about exposure to
18 bankrupt clients, and there was an objection. In one of
19 the depositions in these cases, the person was asked
20 about exposure to various bankrupt companies. Again,
21 objected and told not to answer. So we went to the Court
22 and the Court ordered that any bankrupt trusts be
23 disclosed to us, and they were provided right before
24 trial. And in those two cases, Garlock went to trial,
25 used the trust claims at trial and received a defense

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1 verdict.

2 Q. All right. And these -- what jurisdiction were
3 these cases pending in?

4 A. They were in Pennsylvania. Northampton County,
5 Pennsylvavnia.

6 Q. Okay. Are you responsible for those?

7 A. Yes. I was not the trial attorney, but I was
8 responsible for that trial.

9 Q. Okay. There's other examples?

10 A. Yeah. There was a case in Texas, Victor Davis,
11 and that case was in the 2000s. There was undisclosed
12 exposure to some insulation products, Celotex and
13 Eagle-Picher. There were trust claims filed and the
14 Court compelled the disclosure of those trust claims. At
15 trial, Garlock examined the experts about those exposures
16 and the result was a Garlock defense verdict.

17 Q. Okay. How would you, as an attorney, Mr. Turlik,
18 use trust claims in a case?

19 A. A variety of ways, depending on when we got the
20 trust claims. But it's something that during discovery
21 you could examine the witnesses, the plaintiff or his
22 co-workers with; you can also do that at trial. You also
23 presented -- you present it to the various experts in the
24 case, both plaintiff's experts and your own defense
25 experts. It's very important because that shows our

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1 defense experts the exposures to which they can compare
2 to the Garlock exposures. So, it's very important. And
3 we can also publish them to the jury.

4 Q. And you've identified, it looks like, a sample of
5 a trust claim form that was identified through this
6 bankruptcy process. Can you explain to the Court how it
7 might be used in a case against Garlock?

8 A. Yes. This is an Owens Corning claim form. And
9 you can see that it talks about breach of exposure to
10 Owens Corning products, and it cites the TDP Section
11 5.7(b) which I think we should talk about a little later.
12 But then it talks about if the site: "You're alleging
13 exposure to Owens Corning is not on the list. Provide
14 independent documentation of meaningful and credible
15 evidence of exposure." So, these forms are asking for
16 exposure. This isn't -- these aren't funds that you just
17 go and raid. These are funds that are set up to
18 compensate people who have exposure and injury to --
19 because of the products of those companies.

20 Q. And you've also pulled some other portions of this
21 example for the Court to look at?

22 A. Yes. This is an Owens Corning claim in another
23 case and it asks about site and plant where the exposure
24 occurred. And this gentleman listed the exposure, where
25 he had the exposure. And it talks about, every claimant

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1 must submit evidence of exposure to Owens Corning
2 asbestos products and activities. So these trust claim
3 forms clearly show that there must be exposure to those
4 products, and they're actually admissions of exposure.

5 Q. You've heard in the court description of trust
6 claims that are so-called "site list" claims?

7 A. Yes.

8 Q. Is this an example of one of those?

9 A. Yes, it is. But it still -- it is still asserting
10 exposure at that site. It's just allowing the person not
11 to provide additional proofs, but it's still an assertion
12 of exposure. It's an admission of exposure.

13 Q. And does that exposure relate to the trust's
14 products?

15 A. Yes, it does.

16 Q. Okay. You mentioned the TDP. Can you explain
17 that to the Court?

18 A. Yes. Again, the TDP -- and I don't need to
19 explain to Your Honor what a TDP is. But the Owens
20 Corning TDP talks about the claimant must demonstrate
21 meaningful and credible exposure to the product of the
22 Owens Corning or Fibreboard and that that company has
23 legal liability. So, again, it is an admission of
24 exposure.

25 Q. And why are these TDP trust distribution

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1 procedures important to you as a trial lawyer?

2 A. Because it further shows that these documents are
3 exposure admissions.

4 Q. Okay. You selected another example?

5 A. Yes. A Celotex claim form. And in there, they
6 describe how the injured party was exposed to Celotex or
7 Carey, Canada, product or operations. And the answer
8 goes on to say that the person was maintaining or
9 operating or repairing boilers, and then it lists the
10 exact type of products. This is important -- these are
11 important pieces of information that would be helpful to
12 us in asserting our defenses.

13 Q. During the cross-examination of Professor Brickman
14 last Friday, Committee counsel suggested that trust
15 claims present no new information to a defendant. Do you
16 agree with that?

17 A. In many instances, I do not agree with it. There
18 are some instances where that is so, but in many, many
19 instances this is the first time that these types of
20 exposures are disclosed.

21 Q. Are trust claims always admitted into evidence at
22 trial?

23 A. No. I've had occasions where they aren't, but
24 I've had -- I've had both personally, and I know of
25 occasions where they are.

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1 Q. Are they still useful to a defendant even if
2 they're not admitted as substantive evidence in a trial?

3 A. They are. Because they are -- we give them to our
4 experts and they're able to rely on these admissions as
5 to the exposures, and then that factors into their
6 opinion and their testimony as to what really caused the
7 disease. Albeit -- not "albeit," but the thermal
8 insulation.

9 Q. What about ballots that are cast in an asbestos
10 bankruptcy? How would that impact a case against
11 Garlock?

12 A. Well, if you can look at the ballot itself. The
13 wording on the PCC ballot talks about that the ballot is
14 for claims based on exposure to Unibestos products. So,
15 it is also an admission. And then it lists all the
16 people who are voting because they have a claim based on
17 exposure to those products. So that's an admission,
18 also.

19 Q. This is a ballot from the Treggett case; is that
20 right?

21 A. Yes.

22 Q. All right. After looking at ballots in connection
23 with offering your opinions here, Mr. Turlik, do you
24 agree with those who contend that ballots don't contain
25 information relevant to a plaintiff's case against an

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1 asbestos defendant?

2 A. Well, no. Just the plain language of that ballot
3 shows that it does. But I think that there's also been
4 an opinion by Judge Fitzgerald that makes that point
5 also.

6 Q. And what did she say?

7 A. Well she was talking about ballots being a
8 certification of exposure. And her quote is that they're
9 taking a position here that says they have a legitimate
10 claim. They've sworn to that fact under penalty of
11 perjury, and the ballot is what determines that. So the
12 ballot is an admission of a claim. And you can't have a
13 claim unless you have exposure.

14 Q. All right. What about 2019 statements. Do you
15 have a view on that?

16 A. Yes. Again --

17 MR. SWETT: Objection, your Honor. 2019
18 statements were not mentioned in this gentleman's report.
19 This is beyond the scope of the opinions that he
20 disclosed in his written report.

21 THE COURT: I'll sustain that objection.

22 MR. KRISKO: All right. Your Honor, can I ask him
23 a factual question about --

24 THE COURT: Yes.

25 BY MR. KRISKO:

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1 Q. Mr. Turlik, were you aware of the availability of
2 2019 statements in your asbestos litigation practice?

3 A. No. Back in the day, before Garlock filed, I
4 wasn't aware of the 2019s or ballots. So I had not had
5 the chance to try to present those to any court. I don't
6 know how a court would rule. But just the plain reading
7 of those documents show them to be signed by, if not the
8 plaintiff himself, by his representative who's authorized
9 to make those admissions on his behalf.

10 MR. SWETT: Objection. He just voiced an opinion
11 exceeding the scope of his written report.

12 THE COURT: I'll sustain that objection.

13 BY MR. KRISKO:

14 Q. All right. Mr. Turlik, do you have an opinion
15 about changes in tort litigation since Garlock filed for
16 bankruptcy and how they would or may impact Garlock's
17 trial risk and settlement values?

18 A. Yes, I do have an opinion.

19 Q. What is that opinion?

20 A. It's my opinion that there's been various changes
21 that occurred since June 5, 2010 when Garlock filed for
22 protection that would, in fact, reduce Garlock's trial
23 risk and, thus, their settlement values.

24 Q. Okay. Can you give us the reasons why you've --
25 involved for that opinion?

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1 A. Yes. There's a number of opinions. The first I
2 want to discuss with Your Honor is the demise of every
3 occupational exposure theory. Basically, before 2010
4 many jurisdictions would not allow a plaintiff's expert
5 to say every occupational exposure caused the disease,
6 but that type of testimony was a direct assault upon
7 Garlock's low-dose defense. So Garlock, in some
8 instances, were able to show that there were no dose, but
9 in others it was a very low-dose. But the testimony from
10 the plaintiff's expert would be that every exposure, no
11 matter how small, would cause the disease. That is --
12 was not the law in many jurisdictions, but it was in
13 some, at the time of Garlock's filing. There have been
14 some cases, most notably the Betz case out of
15 Pennsylvania, that has changed that. So it makes it --
16 it makes Garlock's low-dose defense even stronger than it
17 was.

18 Q. Okay. Are there other changes that you wanted to
19 share with the Court?

20 A. Yes. I've discussed already how important it is
21 to get those trust claims. And a number of jurisdictions
22 are increasing the transparency and allowing us those
23 documents. Ohio, through legislation, has done it.
24 Massachusetts and West Virginia have changed their case
25 management orders so that defendants now get those

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1 documents. And in those jurisdictions, that was not
2 necessarily the rule at the time Garlock filed. So
3 having those documents that are admissions of exposure
4 would help Garlock in its defense.

5 Q. Now you've listed these three instances. Have
6 other jurisdictions or other courts taken steps like this
7 in -- shortly before Garlock filed for bankruptcy?

8 A. Yes, they did.

9 Q. Can you give the Court some examples?

10 A. New York had done it. Philadelphia had done it.
11 So it was a rising trend that now has increased. So,
12 Garlock would be able to take advantage of those changes,
13 had they been still in the litigation.

14 Q. Okay. Your report also describes changes in joint
15 and several liability law?

16 A. Yes. In Pennsylvania, which was a very difficult
17 jurisdiction, there has joint and several liability at
18 the time of Garlock's filing. So, essentially, you --
19 when a verdict was entered, you paid a proportional. So
20 if there were three shares, you paid one-third of the
21 verdict. If there were five shares, one-fifth. Well,
22 the Pennsylvania Fair Share Act which, I believe, was in
23 2011, I think. And I don't -- I have it in my report
24 someplace. 2011. So I was correct. It basically
25 eliminated, in most instances, joint and several

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1 liability. So now a defendant who is found liable pays a
2 percentage of the verdict, instead of a share. Also, in
3 some instances under the Pennsylvania Fair Share Act,
4 parties who have settled or paid are put on the -- are
5 put on the verdict form, and that would include
6 bankrupts. So, that's a big change.

7 So what I wanted to do was look at another state
8 that already had that type of system. And I was aware of
9 a case that was tried against Garlock, Simpson versus
10 Garlock in upstate New York. And in that case the
11 exposure to thermal insulation products and to various
12 bankruptcy -- bankrupt products was disclosed. We had
13 bankruptcy forms but they weren't admitted into evidence.
14 But we had trial testimony about these exposures. And
15 when the verdict was returned, 87 percent of the verdict
16 went to bankrupt entities. Two percent to Garlock.
17 So that shows the power of having both this testimony and
18 the changes in law. So that's a very positive change for
19 defendants in the litigation that has occurred since
20 2010.

21 Q. All right. You also describe, in your report,
22 changes in Pennsylvania; Philadelphia, I think, in
23 particular?

24 A. Yes.

25 Q. Can you describe those for the Court?

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1 A. Yes. Philadelphia was a very difficult
2 jurisdiction for defendants for a number of reasons. The
3 cases were tried in reverse bifurcated manner. Cases
4 were brought in from other jurisdictions that were less
5 plaintiff-friendly and tried in Philadelphia, and then
6 there were consolidated trials where you could have up to
7 ten cases tried at once. Generally, it wasn't that large
8 but you would still have multiple defendant or plaintiffs
9 being tried together. You also had a system where a
10 single plaintiff generally, except for very extenuating
11 circumstances, couldn't be tried alone. All those were
12 detrimental to a defendant like Garlock in that
13 situation.

14 Reverse bifurcation was a scheme in which the --
15 there was a determination of the jury only as to whether
16 the plaintiff suffered an asbestos-related disease and,
17 if so, how much money he should be compensated. Then the
18 jury was later given the liability case. But you had
19 this damages issue. When you had a defendant like
20 Garlock in the case, there was -- there was no real
21 defense in a mesothelioma case. The person has it, but
22 the jury is hearing all this information about how
23 horrible asbestos is. It inflames their passions and it
24 allows the jury verdicts to become large. Verdicts in
25 Pennsylvania were eight, \$12 million, they were all over

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1 the place. There were low verdicts. There were high
2 verdicts. But it was very difficult for that jury then
3 who has become vested in this person, in this disease, in
4 this verdict to then turn around and throw that verdict
5 out. It happened, but it was very difficult.

6 I read recently one of the plaintiff's very many
7 firms in answering questions for their client, can we
8 have reverse bifurcation and is it beneficial to me? And
9 they cited a study that said that the verdicts are
10 enhanced by 29 percent by having reversed bifurcation.
11 So now in Philadelphia you don't have that. So,
12 logically, the verdicts are going to be reduced, if that
13 study is correct, by 29 percent.

14 Q. Now I know, Mr. Turlik, your testimony is that
15 reverse bifurcation has ended in Philadelphia. Can you
16 tell the Court whether the initial purpose of reverse
17 bifurcation was to protect defendants?

18 A. No, it absolutely wasn't. The purpose was to help
19 eliminate the backlog. In cities like Philadelphia there
20 was a tremendous backlog in the cases. The idea was that
21 when the thermal insulation products were there, they
22 didn't have a liability defense so that -- there was no
23 need to try that portion of the case; that all we needed
24 to do was determine a number of -- a verdict, and that
25 the settlement would follow. And all in all, that's what

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1 happened.

2 But as the thermal insulation defendants left the
3 litigation, the liability trial was still needed. And so
4 the courts realized that this was prejudicial to these
5 defendants, that you -- that you had these large verdicts
6 that you were having to negotiate off of, and that was
7 not necessarily saving the Court any time. So they ended
8 reverse bifurcation.

9 Q. You also talked about credit for trust payments
10 with this slide?

11 A. Yes. There was a case in 2010, after Garlock's
12 filing, Reed versus Honeywell, where a judge ruled all
13 proceeds received by the plaintiff should be credited off
14 the verdict. So when you reduce the verdict, you're
15 reducing the settlement value. And Philadelphia is not
16 the only state that's done that. Other states that --
17 and since the filing, Massachusetts has changed their
18 Case Management Order to allow such a credit.

19 Q. Okay. Have you summarized the changes that you
20 think are important to your opinion?

21 A. Well, there's additional changes. For example, in
22 Massachusetts and Ohio, the rules there force the
23 plaintiff to now file all their bankruptcy filings, to
24 file their claims in advance of the trial. So there's --
25 so it's very helpful and that there's no hiding of those

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1 exposures and waiting until the end of the case. So that
2 the defendants are able to benefit from that evidence
3 while the case is still in the tort system.

4 Q. Okay. So is that a requirement beyond just mere
5 disclosure?

6 A. Correct.

7 Q. In those -- in those circumstances, a plaintiff
8 must actually investigate and file his trust claims?

9 A. Correct.

10 Q. Okay. Are there other states that impose that
11 requirement?

12 A. Yes. New York, for example, does that.

13 Q. Okay.

14 A. Or at least New York City. I don't know about the
15 whole state.

16 Q. Mr. Turlik, do you have an opinion as to whether
17 the disclosure of exposure to thermal insulation
18 products, including trust claims and ballots, would
19 reduce defenses costs?

20 A. Yes, I do have an opinion.

21 Q. Please describe your opinion.

22 A. It's my opinion if we were able to have full
23 disclosure to thermal insulation products, including
24 trust claims, that defense costs would be reduced. The
25 disclosure of these products would avoid investigation

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1 costs. We wouldn't have to try researching these
2 co-workers. We wouldn't be looking at these records. We
3 wouldn't be hiring experts to get this information. We
4 would have this information available to us. When you
5 realize that costs drive settlements, you understand how
6 important that is. So having this type of information
7 would reduce our costs, would reduce our risk, would
8 reduce our settlements.

9 Q. All right. Thank you, Mr. Turlik.

10 Now, you've talked about these changes in the
11 2000s that are a part of your opinion. Now, have you
12 identified any additional cases that are reflective or
13 illustrate the changes that you've been talking about?

14 A. Yes, I have.

15 Q. Okay. And you've got this slide here that
16 identifies the Golini case?

17 A. Yes. That was a case in Philadelphia scheduled --

18 MR. GUY: Your Honor, I don't believe this is in
19 his report either. And I'm sure they're going to have to
20 find another witness who has spoken to it before but not
21 through this witness.

22 MR. KRISKO: Your Honor, I think, as Mr. Swett
23 argued, he is a fact and also an expert witness. This is
24 a case that he was responsible for in his role as
25 regional counsel for Garlock. I think he's perfectly

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1 qualified to talk about this.

2 THE COURT: I'm going to let him talk about this.

3 MR. GUY: Your Honor, is he talking as a fact
4 witness now, or is he an expert witness?

5 THE COURT: We'll find out. We're going to let
6 him talk about it.

7 MR. GUY: Thank you.

8 THE WITNESS: Factually, Golini was a case -- I
9 guess I should wait for a question.

10 BY MR. KRISKO:

11 Q. Can you describe the circumstances of the Golini
12 case for the Court?

13 A. Yes. The facts in Golini were that he was a --
14 had mesothelioma. He was a laborer and apprentice
15 pipefitter at the shipyard, the Navy shipyard in
16 Philadelphia.

17 Q. And have you had a chance to review the discovery
18 that the plaintiff provided in that case?

19 A. Yes, I have.

20 Q. What did it -- what did you learn?

21 A. Well, the first thing I looked at were discovery
22 responses. Interrogatory 23 asks whether the plaintiff
23 ever worked with or around asbestos-containing materials
24 manufactured by a company that was not named as a
25 defendant. The response in the Golini case was that he

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1 had no personal knowledge of any such exposures.

2 Now, what that question is asking for is any
3 company that wasn't sued as a defendant. So that would
4 be any company that had, possibly, a pre-filing
5 settlement and also bankrupt companies.

6 Q. And what was Mr. Golini's response?

7 A. That he had no personal knowledge of any such
8 exposures.

9 Q. What else did the discovery tell you?

10 A. Well, I looked at not interrogatory --
11 depositions. He was asked about the conditions on board
12 his ship -- the ships, and talking about piping and the
13 pipe covering. He said that the conditions on the ship
14 was always wonderful. So he's minimizing this exposure
15 to the thermal insulation products.

16 Q. Now in the cross-examination of Professor Brickman
17 last Friday, we heard something about the Golini case
18 from the Committee. Do you remember that?

19 A. Yes, I do.

20 Q. Okay. And was there anything else that Mr. Golini
21 said?

22 A. Yes. If you flip to the next slide, and this was
23 actually asked of Professor Brickman, basically saying
24 that Mr. Golini had come forward with his exposures. Now
25 it's important exactly what he said, which is that you

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1 would have to cut around the insulation to get at the
2 pipe. And this was talking about when he worked on
3 turbines. And he said sometimes. "Sometimes" doesn't
4 meet the legal standard. There's -- and it's a
5 minimizing of those exposures. Professor Brickman also
6 asked to see pages above and beyond these portions that
7 were shown to him, and so I looked at those. And if you
8 go to the next slide which, I believe, is the page just
9 prior to this testimony, he's asked about pipe covering
10 and insulators. And Mr. Golini said he was -- yeah, they
11 were there, but I never worked around anybody. He was
12 asked what the pipe covering was made of. And he said, I
13 guess they were covering them with asbestos if they were
14 hot lines. I don't know.

15 Q. Why is that significant?

16 A. That's significant because essentially -- not
17 "essentially." He's saying he doesn't know if these
18 products contained asbestos. So what we need to do is
19 determine who the manufacturer of the product is and,
20 through that information, show that it's an asbestos-
21 containing product.

22 Q. What else did you note in Mr. Golini's discovery?

23 A. Well, there were -- there were questions about
24 other times he worked, for example, with flanges. And he
25 said that he didn't have to cut back that insulation.

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1 Q. Okay. And why is that significant?

2 A. Well it's not the testimony that we heard in the
3 '90s. They would talk about using the -- you go --
4 getting into a flange and getting the gasket, but they
5 would talk about all the insulation that they had to
6 remove. This gentleman said that he did not have to do
7 that.

8 Q. All right. You -- have you identified anything
9 else in the discovery that you wanted to describe to the
10 Court?

11 A. Yes, I have.

12 Q. What's that?

13 A. He was asked specifically about a variety of
14 thermal insulation products. He was asked about Kaylo --
15 Owens Corning, Kaylo, Fibreboard, Eagle-Picher. He was
16 asked actually twice about Armstrong. And to each of
17 those, he denied having any exposure to those products.

18 MR. SWETT: Can we have page references?

19 MR. KRISKO: Sure. They're displayed at the
20 bottom of the screen there.

21 THE WITNESS: 32 through 34.

22 MR. SWETT: Thank you.

23 BY MR. KRISKO:

24 Q. All right. Mr. Turlik, was this the record upon
25 which Garlock resolved to Golini case?

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1 A. Yes. So we had a record that included no bankrupt
2 companies identified in the interrogatories. We had
3 testimony that he didn't work with very much of this --
4 these insulation products and that the condition on the
5 ship was always "wonderful." We had there that he didn't
6 know whether or not it really contained asbestos and that
7 he never saw or encountered products manufactured by a
8 number of companies. There were more that he denied, but
9 I pointed out Owens Corning, Fibreboard, Armstrong and
10 Eagle-Picher.

11 Q. Okay. Now, Garlock has obtained further
12 information about the Golini case in these proceedings?

13 A. Yes. Subsequent to settling the case.

14 Q. Have you had an opportunity to review that
15 information?

16 A. I have.

17 Q. And what did you learn?

18 A. Well, I learned that after the -- that there were
19 a number of trust filings. There were 20 trust claims,
20 there were five ballots. And the trust claims were to
21 many of the same products that we asked him about. There
22 was Owens Corning: He filed a trust claim. Armstrong:
23 He filed a trust claim. Eagle-Picher: He filed a trust
24 claim. Celotex: He filed a trust claim. So despite
25 denying these exposures, he filed trust claims alleging

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1 exposures.

2 Q. What kind of information did these trust claims
3 contain?

4 A. Well, they -- they were very much like what I said
5 before. But in these cases what we saw were actual
6 affidavits signed by Mr. Golini where he said that he
7 frequently, regularly and proximately breathed asbestos
8 dust from here Fibreboards', Pabco, asbestos-containing
9 products or pipe covering. So what's important is, in
10 part, his wording where you heard sometimes in his
11 deposition testimony. But in this affidavit under oath
12 with penalties of perjury, he testified that it was
13 frequent, regular and proximate, and that he breathed
14 dust from these products.

15 Q. Let me stop you there, Mr. Turlik. When you
16 described Mr. Golini's testimony about sometimes he was
17 exposed, was he testifying about a particular product in
18 that testimony?

19 A. No. He said that he didn't know any of those
20 products.

21 Q. How does that compare to Mr. Golini's sworn
22 statement as displayed here?

23 A. Here he's identifying Fibreboard, Pabco products.

24 Q. What did Mr. Golini have to say about exposure to
25 that company's products at his deposition?

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1 A. That he did not have exposure or that he did not
2 know it.

3 Q. Were there other sworn statements that were
4 obtained?

5 A. Yeah. There were a number of affidavits. I've
6 got one for Eagle-Picher, which was one that I showed
7 Your Honor, that he denied. And here, he specifically
8 says it was Super 66 or One-Cote by Eagle-Picher. Again,
9 that important language of "frequently, regularly and
10 proximate," that's the standard in Pennsylvania where
11 this case was venued, as to exposure and liability.

12 Owens Corning fiberglass. Here is another
13 affidavit and he says the Kaylo pipe covering by Owens
14 Corning. Again, that was denied at deposition.

15 Q. And here is another that you've identified?

16 A. Armstrong World. He denied that twice, but yet he
17 signed an affidavit saying that he was exposed to
18 Armstrong asbestos pipe covering on a frequent, regular
19 and proximate basis, and that he breathed dust from it.

20 Q. Okay. Mr. Turlik, I've noticed on these slides
21 that you've highlighted the date that Mr. Golini executed
22 these sworn statements.

23 A. Yes.

24 Q. Did you do that?

25 A. That date's very important. May 16th 2009 was

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1 prior to the answering of the interrogatories and prior
2 to his deposition.

3 Q. You've got a timeline here?

4 A. Yes.

5 Q. Do you want to explain to the Court with this
6 slide?

7 A. Yes. And as we can see -- and we just showed Your
8 Honor three or four of these sworn affidavits. There
9 were 14 of them that were executed in May of 2009, even
10 prior to filing suit, prior to the interrogatory answers,
11 prior to the deposition, but the whole time denying these
12 exposures and having these affidavits stating to the
13 contrary. These were -- this was important information.
14 Whether or not a court allows a claims form in, all
15 courts allow sworn affidavits. So this was clearly
16 admissible and clearly relevant to both our low-dose
17 case. Because if you look at the volume of these
18 exposures as compared to what he testified about, that's
19 huge. That really is important to making our defense
20 work both at low-dose and also in terms of fiber type.

21 Q. Would this information have impacted how Garlock
22 resolved the case?

23 A. It would have lessened our trial risk. It would
24 have given a case where we would be confident that we had
25 our whole defense again, because we would have had these

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1 exposures that we didn't know about at the time we
2 settled the case.

3 Q. Would access to this kind of information have
4 impacted Garlock's defense costs in the case?

5 A. Yes, it would have, because we wouldn't have to
6 spend all that money trying to find alternative sources
7 for this identification. It was there and we didn't have
8 it.

9 Q. Okay. Mr. Turlik, you've identified other cases
10 as well?

11 A. Yes, I have.

12 Q. You've got a slide for the Massinger case?

13 A. Yes. Massinger was a case that began trial in
14 Philadelphia in 2009. It was a reverse bifurcated case,
15 and so all that was being determined initially was
16 whether the man had mesothelioma and what the
17 compensation should be. His allegation was that his
18 exposure was a take-home exposure from his father who
19 worked at Sun Ship, a shipyard in suburban Philadelphia.
20 He, himself, worked in the Air Force. But in terms of
21 the evidence presented to us, that was not in play.

22 Q. So these are called "take-home exposures?"

23 A. Yes.

24 Q. Was there anything else that was notable about the
25 Massinger case?

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1 A. Yes. It was an especially sad case.

2 Mr. Massinger was in his low 50s, I think he was 52 years
3 old. He had a son that was in the armed services. He
4 had a minor daughter at home; I think she was 16 years
5 old. It was a very, very sad case.

6 Q. And was Massinger a case that was within your
7 jurisdiction?

8 A. Yes. It was in Philadelphia, Pennsylvania, which
9 is actually where I live and practice --

10 Q. Okay.

11 A. -- and it was within my region.

12 Q. All right. Have you examined the discovery that
13 the plaintiff provided in this case?

14 A. Yes, I did.

15 Q. Okay. What did you learn?

16 A. Well, the first thing I looked at was discovery
17 responses to Interrogatories. Again, he said that he had
18 no personal knowledge of any exposures to companies'
19 products who weren't named in the lawsuit. So, again,
20 denying in this interrogatory response that he had
21 exposure to bankrupt products.

22 Q. What else did you see in the discovery,
23 Mr. Turlik?

24 A. Well, I looked at the deposition transcripts. And
25 in this portion, he asserts -- he's asked if he was

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1 exposed to asbestos in his lifetime. And he said, "Yes,
2 from exposure from my dad who was a welder at Sun Ship."
3 So he's putting his -- the exposure right there.

4 Q. Okay. Is he identifying any other occupations or
5 periods in which he was exposed?

6 A. No, he is not.

7 Q. Okay. What else did you note in the discovery?

8 A. Well, we asked him about his exposure in the Air
9 Force. He had testified that the Air Force was very,
10 very good about protecting their service members from
11 asbestos. And we asked him specifically about two
12 locations: While he was in Lackland, Texas, whether he
13 was exposed to asbestos, whether he worked with it or
14 around it. He said no. Also, Dover, Delaware, the Air
15 Force -- the big Air Force base down there, and he said
16 he wasn't exposed. So there was a complete denial of
17 exposure in the Air Force, but yet -- but evidence that
18 he -- that he was exposed through his father at Sun Ship.

19 Q. Okay. So did he identify any exposure during his
20 period in the Air Force?

21 A. No. He, at certain times, testified that there
22 might be some exposure but he didn't think so. He gave
23 no clearance that would be admissible that he was
24 exposed. And in fact, he said at various locations that
25 he was not exposed.

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1 Q. Okay. And is this the record upon which Garlock
2 resolved this case?

3 A. Yes. So basically, we had a case where we had
4 take-home exposure from his father, we had direct
5 exposure denied by him, and we had a failure to
6 acknowledge any exposure to bankrupt companies.

7 Q. Okay. Now, this is another case that Garlock has
8 been able to obtain information in these proceedings; is
9 that right?

10 A. Yes.

11 Q. Okay. Have you reviewed that information?

12 A. I did, indeed.

13 Q. Okay. Is there anything that you'd like to
14 describe for the Court about that?

15 A. Yes. As you can see in this chart, there were
16 numerous on -- numerous undisclosed exposures. Now there
17 were also exposures from the -- his father's co-worker
18 that were identified. But, there were undisclosed. And
19 when you're -- so we were not given the full picture.
20 Important there was the Air Force exposure which was
21 denied by this gentleman, but that Air Force exposure
22 existed in the form of affidavits.

23 Q. Is this one of those affidavits that you
24 described?

25 A. Yes, it is. Now we weren't given this during the

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1 life of the case in the tort system. It came to us
2 afterwards. But here I showed Your Honor how he denied
3 exposure at Lackland and at Dover, but yet this affidavit
4 says that while he was in the United States Air Force as
5 a power engineer, he was exposed to asbestos at the
6 following sites: Lackland, Dover, and that he -- the use
7 of those products contained dust -- created dust which he
8 breathed. So, completely contrary to his testimony.

9 Q. Okay. And had Garlock had access to that
10 information, would that have changed how it evaluated the
11 case?

12 A. Yes, it would have. Because even though there was
13 some acknowledgment of some exposures to named defendants
14 at Sun Ship, you've got to think about the type of
15 exposures that we're dealing with here. At Sun Ship it's
16 exposures on his father's clothing which, as his father
17 goes through his day-to-day activities at the shipyard,
18 those fibers come and go off of his clothing, including
19 any fibers that might have come from Garlock.

20 Then he leaves. He goes, either, to the subway or
21 his drive home. He goes through the elements, the wind,
22 rain, etcetera, and those -- sitting down in the car,
23 sitting down in the subway, however he came home. So
24 those fibers are removed, so it's going to be a much
25 smaller exposure at the -- from his father. However,

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1 here we have an admission by this gentleman that he was
2 directly exposed, and that's going to be a much higher
3 level of exposure. So that, again, goes into Garlock's
4 low-dose defense. So it's crucial information that we
5 did not have.

6 Q. When was this case resolved?

7 A. This was actually on trial in Philadelphia, so we
8 settled it in 2009 during trial.

9 Q. Do you remember what month it was?

10 A. I want to say December.

11 Q. Okay. Can -- I don't know if you can read that,
12 Mr. Turlik, but it looks like there's a date on this
13 sworn statement that Mr. Massinger had. Can you see that
14 on the screen that you've got?

15 A. I can't.

16 Q. Okay.

17 A. Your Honor, may I approach -- actually, I might be
18 able on this screen. I wasn't paying attention. It was
19 May 28th of 2009.

20 Q. Okay. So if the Massinger case was tried in
21 December of 2009, this statement would have been made
22 well before trial?

23 A. Yes.

24 Q. Was it provided to Garlock?

25 A. No, it was not.

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1 Q. Do you know, Mr. Turlik, whether Mr. Massinger
2 filed any trust claims before his case went to trial?

3 A. Yes, I believe he did.

4 Q. Okay. Do you know which ones those were?

5 A. I don't remember as I sit here. I'm sorry.

6 Q. Okay. Do you know whether he withdrew any trust
7 claims before his case went to trial?

8 A. If I'm thinking of the right case, I think he did.
9 I don't remember one way or another.

10 Q. Okay. Do you have another case that you want to
11 discuss?

12 A. Yeah. One more Philadelphia case.

13 THE COURT: Let's do that tomorrow. It's 20 till
14 and I think we've got to quit, or we'll all be locked in
15 here for the night. Let's just stand down until 9:30
16 tomorrow morning.

17 (Off the record at 5:41 p.m.)

18 **CERTIFICATE**

19 I, Tracy Rae Dunlap, RMR, CRR, an Official Court
20 Reporter for the United States District Court for the
21 Western District of North Carolina, do hereby certify
22 that I transcribed, by machine shorthand, the proceedings
had in the case of IN RE: GARLOCK SEALING TECHNOLOGIES,
LLC, et al, Bankruptcy Case No. 10-BK-31607, on July 31,
2013.

23 In witness whereof, I have hereto subscribed my
name, this 1st day of August 2013.

24 ___/S/___Tracy Rae Dunlap___
25 TRACY RAE DUNLAP, RMR, CRR
OFFICIAL COURT REPORTER